

*Final*

# **ENVIRONMENTAL ASSESSMENT**

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VIGILANT WARRIOR TRAINING SITE



Maxwell Air Force Base  
Montgomery, Alabama  
July 2008

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## Acronyms and Abbreviations

42 ABW	42 <sup>d</sup> Air Base Wing	SOC	Squadron Officer College
A.D.	anno Domini (in the year of the Lord)	µg/m <sup>3</sup>	micrograms per cubic meter
ADEM	Alabama Department of Environmental Management	U.S.	United States
AFB	Air Force Base	USACE	U.S. Army Corps of Engineers
AFI	Air Force Instruction	USAF	U.S. Air Force
AFOATS	Air Force Officer Accession and Training School	USC	United States Code
ASBC	Air and Space Basic Course	USCB	U.S. Census Bureau
BC	Before Christ	USDA	U.S. Department of Agriculture
BOT	Basic Officer Training	USEPA	U.S. Environmental Protection Agency
BMP	Best Management Practices	USFWS	U.S. Fish and Wildlife Service
CEQ	Council on Environmental Quality	VOC	volatile organic compound
CFR	Code of Federal Regulations	VW	Vigilant Warrior
CO	carbon monoxide	YMCA	Young Men's Christian Association
CR	County Road		
CS	O-Chlorobenzylidene Malononitrile		
dB	decibel		
dBA	A-weighted decibel		
EA	environmental assessment		
EIAP	Environmental Impact Analysis Process		
EIS	environmental impact statement		
EO	Executive Order		
FICON	Federal Interagency Committee on Noise		
FIP	Federal Implementation Plan		
FONSI	Finding of No Significant Impact		
FY	fiscal year		
ICRMP	Integrated Cultural Resources Management Plan		
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning		
Ldn	day-night average sound level		
MAFB	Maxwell Air Force Base		
mg/m <sup>3</sup>	milligrams per cubic meter		
MGD	million gallons per day		
MSA	Metropolitan Statistical Area		
MSD/CEV	Maxwell Support Division Civil Engineering Environmental Section		
MSL	Mean Sea Level		
NAAQS	National Ambient Air Quality Standards		
NEPA	National Environmental Policy Act		
NO <sub>2</sub>	nitrogen dioxide		
NO <sub>x</sub>	nitrogen oxides		
O <sub>3</sub>	ozone		
OTS	Officer Training School		
Pb	Lead		
P.E.	Professional Engineer		
PM <sub>2.5</sub>	particulate matter less than 2.5 microns in diameter		
PM <sub>10</sub>	particulate matter less than 10 microns in diameter		
POL	petroleum, oils, and lubricants		
ppm	parts per million		
R.E.M.	Registered Environmental Manager		
ROI	region of influence		
SF	square foot		
SHPO	State Historic Preservation Office		
SIP	State Implementation Plan		
SO <sub>2</sub>	sulfur dioxide		

**FINDING OF NO SIGNIFICANT IMPACT**  
**VIGILANT WARRIOR TRAINING SITE**  
**MAXWELL AIR FORCE BASE, ALABAMA**

**AGENCY:** Department of the Air Force, Air Education and Training Command, 42<sup>nd</sup> Air Base Wing (42 ABW), Maxwell Air Force Base, Alabama

**BACKGROUND:** The Air Force has proposed changes to several training programs and facilities in order to provide a common training experience and additional expeditionary training for Air Force personnel. Much of the desired training can only take place with additional resources such as equipment for field training, improvements at field training locations, and additional specialized training facilities. Due to the existing investment and suitability of the site, expanding the current Vigilant Warrior training facility is the preferred alternative to meet the increased field training needs. The Vigilant Warrior (VW) site is a 200-acre tract of land that is leased by the Air Force from Alabama Power Company. Upon expiration of the lease, the Air Force would remove improvements and restore property in accordance with the terms of the lease.

**PROPOSED ACTION AND ALTERNATIVES:** The proposed action evaluated in the Environmental Assessment (EA), which is hereby incorporated by reference, is to expand current facilities and increase training sessions at the existing VW training site in Elmore County, Alabama. The proposed action includes addition of field training facilities and equipment such as tents, tent pads, latrine/bath houses with accompanying septic systems, a storage facility, a covered training area, and obstacle courses. The upgrades would also include: repairing the roadway, adding fencing and lighting around the cantonment area, replacing several footbridges, and installing any needed utilities to support operations at the VW site. Up to 420 students and 55 instructors may occupy the facility for extended field training sessions. As discussed in the EA, other training sites and alternatives were previously considered, but were eliminated from detailed analysis.

**SUMMARY OF FINDINGS FOR PROPOSED ACTION:**

As discussed in the accompanying EA, the proposed action was evaluated for possible environmental impacts. There are little or no impacts expected to land use, water resources, earth resources, socioeconomic resources, minority or low-income populations, or children. There would be no change in the handling of solid waste, hazardous material or hazardous waste at the site with the implementation of the proposed action.

Minor, short-term increases to air emissions, traffic and circulation, and noise will be associated with proposed construction activities. There are negligible long-term impacts expected to air quality. Temporary geological impacts will consist of ground disturbance, grading, and introduction of fill material at construction sites. Impacts to geological resources will be minimized by using best management practices for erosion control. Water and electrical usage will increase, but existing utility systems are expected to have adequate capacity to accommodate anticipated increases. Septic systems will be installed to handle the sewage increase. Impacts to other resources are described below.

Biological Resources: The proposed action will result in additional disturbance to vegetation and wildlife on the site, but the intent is to maintain the remote character of the land, disturbing as little of the natural flora and fauna as possible. Most construction activities will take place in previously cleared areas, minimizing impacts to natural vegetation. There are no known threatened or endangered species located on the site, and no sensitive habitat areas will be disturbed.


Cultural, Archeological, and Historic Resources: Cultural Resource surveys were previously performed for the entire site. No known archeological or historical resources warranting special protection were discovered at the site. Therefore, there will be no impacts to cultural, archeological, or historic resources. An Alabama State Historic Preservation Office (SHPO) letter of April 25, 2008 contains their concurrence with the proposed action.

Noise: Short-term exposures to noise levels above ambient daytime noise levels will occur near construction sites, normally during standard working hours. Increased noise is expected on site during training sessions, and a noise simulator may be used near the Red Gate cantonment area during exercises. However, noise impacts to the community are expected to be minimal, as there are no residences or sensitive receptors within approximately 800 feet of the VW site.

**NO-ACTION ALTERNATIVE:** Under the No-Action Alternative, proposed construction, renovation, and upgrades would not occur. Training would continue at present levels utilizing present facilities. This alternative would not enable the Air Force to increase expeditionary training capacity or facilities at the Vigilant Warrior site, and would hinder the Air Force goal of a common training experience for Airmen.

**SUMMARY OF PUBLIC REVIEW AND INTERAGENCY COORDINATION:** A 30-day public comment period was held June 18, 2008 through July 18, 2008 to solicit public comments on the draft EA. A public notice was published in *The Wetumpka Herald* on June 18, 2008. Copies of the draft EA and draft FONSI were made available at the Wetumpka Public Library and Air University Library for the entire 30-day period, and copies were sent to agencies that had expressed an interest in the proposed action. Per Brenda King, AU/PA, no public comments were received

**FINDING OF NO SIGNIFICANT IMPACT:** I have reviewed the facts and analysis in the EA, which has been prepared in accordance with the requirements of the National Environmental Policy Act, regulations promulgated by the President's Council on Environmental Quality, and Title 32 Code of Federal Regulation Part 989. I conclude that the Proposed Action will not have a significant direct, indirect, or cumulative impact upon the environment and, therefore, an environmental impact statement is not required.

  
KRISTIN D. BEASLEY  
Colonel, USAF  
42d Air Base Wing Commander

10 Sep 2008  
DATE

**COVER SHEET**  
**ENVIRONMENTAL ASSESSMENT FOR**  
**VIGILANT WARRIOR TRAINING SITE**

**Responsible Agency:** Department of the Air Force

**Contact for Further Information:** Brenda King, AU/PA  
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Maxwell AFB, AL 36112  
Ph. (334) 953-1517

**Proposed Action:** The Air Force is proposing to expand and upgrade the existing Vigilant Warrior training facility in Elmore County, Alabama. The proposed action consists of expansion of facilities and increased training sessions at the existing Vigilant Warrior site. The action includes the construction of additional tent pads, storage buildings, training courses, bath houses, exterior lighting, and other support structures and utilities. The action also includes replacement of several footbridges and needed road repair.

**Designation:** Final Environmental Assessment

**Abstract:** The purpose of the proposed action is to provide expanded training opportunities and facilities to support increased numbers of military students with a field exercise training experience. The location for the field training exercises should be isolated from other military and nonmilitary activities and provide for separation of exercise teams. The proposed action is needed to support the retooling and expansion of the Air and Space Basic Course (ASBC) and other military training needs. Due to the existing investment and suitability of the site, expanding the Vigilant Warrior training facility is the preferred alternative to meet the increased training needs.

The proposed action consists of expansion of facilities and increased training sessions at the existing Vigilant Warrior training facility located on 201 acres in Elmore County that is leased from Alabama Power Company. The proposed action would include adding a minimum of 40 additional tent structures, five additional bathhouse or latrine trailers with necessary septic fields, two additional storage buildings that can also serve as inclement weather shelters, and a sun shelter. Utility infrastructure would be expanded throughout the Vigilant Warrior site. In addition, various command structures and utility support facilities would be constructed, and road repairs/improvements would be completed. Additional fencing, lighting, obstacle courses and field training aids would be installed throughout the site. Several existing footbridges would be repaired/replaced, and a few new footbridges would be constructed.

The additional number of students and instructors would only be limited by the limitations of the built infrastructure. It is assumed that as many as 420 students and 55 instructors could occupy the facility for extended periods of time.

The following resources were evaluated in detail for potential impacts from the proposed action: noise, air quality, biological resources, cultural resources. All other resources were examined for potential impacts and eliminated from further study.

There were no significant impacts noted from implementation of the proposed action.

### **PRIVACY ADVISORY NOTICE**

Public comments on this Environmental Assessment (EA) are requested pursuant to the National Environmental Policy Act, 42 United States Code (USC) 4321, *et seq.* All written comments received during the comment period will be made available to the public and considered during Final EA preparation. Providing private address information with your comment is voluntary and such personal information will be kept confidential unless release is required by law. However, address information will be used to compile the project mailing list and failure to provide it will result in your name not being included on the mailing list.

## **EXECUTIVE SUMMARY**

### **PURPOSE OF AND NEED FOR THE PROPOSED ACTION**

The purpose of the proposed action is to provide expanded training opportunities and facilities to support increased numbers of military students with a field exercise training experience in an area that is isolated from other military and nonmilitary activities and provides for separation of exercise teams. The proposed action is needed to support the retooling and expansion of the Air and Space Basic Course (ASBC). It is the desire of the Air Force to provide expeditionary training to all officers. In addition, the expanded facility will be available to continue to serve other expeditionary training needs of the Air Force as needed. Due to the existing investment and suitability of the site, expanding the Vigilant Warrior training facility is the preferred alternative to provide for the increased training needs.

### **PROPOSED ACTION AND ALTERNATIVES**

The scope of this document is to examine the proposed action to expand the existing training facility and the no-action alternative under an environmental assessment.

#### **Proposed Action**

The proposed action consists of expansion of facilities and increased training sessions at the existing Vigilant Warrior training facility located on a 201-acre site in Elmore County, Alabama, that is leased from Alabama Power Company. The area of the existing facility that is designated as the “Red Gate” area includes a fence, a base camp that includes 26 permanent tent sites, a warehouse/storm shelter, a camouflaged building, an Alaskan Shelter, two bathhouses and related facilities. A fence has been installed around the perimeter of the 201 acres. In addition, a simulated airfield and various obstacle courses and instructional areas have been established.

The proposed action near the Red Gate is to build a minimum of 16 additional tent structures, two additional bath/latrine facilities with associated septic systems, and accompanying expansion of utility infrastructure. Lighting, fencing, and communication lines would be incorporated into the Red Gate base camp area. Water lines would be upgraded, and a water storage tank would possibly be installed. The existing shower/latrine trailers and septic system would be repaired or upgraded. In addition, various command structures and utility support facilities, such as a back-up generator, would be installed.

Additional facilities would also be constructed in the area near the Blue Gate. A primitive bathhouse and pavilion currently exist in this area. Proposed new facilities in this area include a minimum of 8 additional tent structures, a warehouse/storm shelter building, a sun shelter, an additional bathhouse, and a latrine trailer with associated septic system. Fencing, lighting, communication lines, and other utilities would be expanded in

this area. The water lines would be expanded from the Red Gate area to the Blue Gate area.

A new cantonment area, separate from the existing base camp, is proposed for fiscal year 2012. The area would consist of a minimum of 16 tent structures, a latrine, and a storage building/weather shelter.

Various additional field training aids, obstacle courses and trails would be established throughout the rest of the site, leaving the site as naturalized as possible. In order to minimize disturbance to the creeks and creek banks, several footbridges would be repaired/replaced, and a few new footbridges installed. Road improvements would be completed.

The additional number of students and instructors will only be limited by the limitations of the built infrastructure. It is assumed that as many as 420 students and 55 instructors could occupy the facility for extended periods of time. The current plan is to train up to an additional 420 students in four to six day intervals for 10 classes per year. The students would be bussed to the site.

At the end of the lease, the Air Force will remove improvements and restore property in accordance with the terms of the lease.

### **No-Action Alternative**

The no-action alternative would consist of continuing training at the Vigilant Warrior site as it is currently practiced. However, only approximately 140 students can utilize the site at this time. This would not provide the needed training facility necessary to expand the Air and Space Basic Course.

## **IMPACTS OF THE PROPOSED ACTION**

### **Biological Resources**

Implementation of training on site will result in an increase in human disturbance of native species. The impact of human disturbance will be greatest when training coincides with the reproductive/nesting periods of native wildlife species (March-June). Human presence will be concentrated in the following three (3) locations on the site: the base camp near the Red Gate, training areas near the Blue Gate, and after FY2012, an additional cantonment area that may be constructed in a separate location. The Red and Blue Gate areas are previously disturbed areas which are established camp sites, and are least optimal in terms of nest site locations/cover for native wildlife species. Hiking activities on the trails throughout the site will result in minimal short-term disturbance and will not be expected to affect any species' viability. Since no critical habitat areas are currently located on the site, no effects are expected from expanding training facilities at the Vigilant Warrior Training site. Vegetation will remain unaltered to the greatest extent possible, and habitat loss to native wildlife will be minimal. Effects on the biological resources of the site will be diminished by implementing best management

practices during the planning phase of the project, such as constructing footbridges at stream crossings to prevent soil erosion and disruption of plant species. Removal of all refuse generated on site at regular scheduled intervals, or by the end of each session, will minimize material exposure to wildlife.

### **Archeological and Historical Resources**

Section 106 of the National Historic Preservation Act (16 USC 470 *et seq.*, October 15, 1966, as amended) requires that every federal agency take into account how its undertakings could affect historic properties. The entire site has been surveyed for archeological and historical resources, and no archeological or historical resources were discovered that warrant special protection. The Alabama Historical Commission has been contacted pursuant to Section 106 of the National Historic Preservation Act and has concurred with the finding that there will be no impact on archeological and historical resources.

### **Noise Impacts**

Noise impacts to the community are expected to be minimal. The proposed action would increase the noise on site during training exercises. These noise impacts would consist primarily of temporary noise effects during construction of limited improvements to the site, vehicle noise from transportation of students and staff to and from the site, and noise from personnel conducting exercises on the site. The maintenance of a 250-foot internal buffer of existing vegetation around the site, and limited trips to and from the site, would effectively limit off-site noise levels to acceptable noise levels. In addition, the current land use survey of the area did not reveal any sensitive receptors within a 500-foot external buffer (See Figure 4.1, Noise Buffer Zone Map). The use of noise simulators will be restricted to internal areas of the site and for limited hours during nighttime hours. Therefore, no significant noise impacts are expected for the expanded use of the site for training.

### **Impacts of the No-Action Alternative**

There would be no change in environmental impacts from implementation of the no-action alternative.

**Table ES.1**  
**Summary of Impacts**

<b>Resource</b>	<b>Proposed Action</b>	<b>No Action</b>
Air Quality	Air emissions from construction activities would be temporary and localized near the construction site. The proposed action is in conformity with the Clean Air Act and implementing regulations.	No change from baseline.
Water Resources	Best management control practices for erosion and sediment control would be utilized during construction, minimizing potential impacts on water quality. There would be no change in operations that would affect water quality.	No change from baseline.
Land Use	The project is consistent with existing and future land use.	No change from baseline.
Hazardous Materials/Waste	Limited use of hazardous materials will be allowed at the site. All federal and state laws will be complied with.	No change from baseline.
Utilities	Minor increases in utility usage would occur as a consequence of the proposed action. Utility consumption may increase during training exercises.	No change from baseline.
Cultural Resources	There will be no impact to cultural resources.	No change from baseline.
Noise	Construction noise would be temporary and localized. Training noise would increase; however, there are no sensitive receptors near the site.	Minimal change during training exercises. No significant change.
Biological Resources	No significant native vegetation, sensitive plant communities, wetlands, or threatened or endangered plant and animal species would be affected.	No change from baseline.
Geological Resources	Construction techniques and erosion control measures would minimize the potential for erosion.	No change from baseline.
Transportation	Students would be bussed to the site.	No change from baseline.

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FOR  
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## **1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION**

### **1.1. PURPOSE OF AND NEED FOR THE PROPOSED ACTION**

The purpose of the proposed action is to provide additional training opportunities for military personnel with expanded facilities that will provide more field exercise training area, isolated from other military and nonmilitary activities, while also providing separation of exercise teams. The need for the proposed action is in response to the need to retool the Air and Space Basic Course. The course is being retooled to provide military personnel with more initial expeditionary skills. The action is needed to accommodate an additional 420 students and 55 instructors per class. There are proposed 10 classes per year.

### **1.2. LOCATION OF THE PROPOSED ACTION**

The proposed action would occur on 201 acres of land. The land is located on the northeast side of Lake Jordan in Elmore County, approximately 30 miles northeast of Montgomery, Alabama. The land is currently developed as a training facility for military personnel and is currently leased by Maxwell Air Force Base (MAFB) from Alabama Power Company (Figure 1.1, Vigilant Warrior Training Area).

### **1.3. SCOPE OF THE ENVIRONMENTAL REVIEW**

This Environmental Assessment (EA) analyzes the potential environmental impacts of the proposed action and the no-action alternative. This analysis is useful in making decisions and recommendations on deciding whether or not to proceed with those actions, and if so, how they should be taken. Environmental media and other resources reviewed for potential impact included the following characteristics: air quality, hazardous materials/wastes, utility systems, biological resources, cultural resources (including archeological and historical resources), surface water resources, earth resources, socioeconomic resources, and noise. Only those environmental resources that would affect, or be affected by, the proposed action or the no-action alternative were analyzed further.

The proposed action and no-action alternative are assessed for their potential long and short term impacts on society as a whole, the affected region and interests, and the locality.

### **1.4 ENVIRONMENTAL IMPACT ANALYSIS PROCESS (EIAP)**

Congress enacted the National Environmental Policy Act (NEPA) (Public Law 91-190, 42 United States Code [USC] 4321–4347, as amended) in 1969 to establish a national policy for the protection of the environment. NEPA requires federal agencies to assess the environmental consequences of the Proposed Action and Alternatives systematically as part of the decision-making process. The intent of NEPA is to protect, restore, or

enhance the environment through well-informed decisions by the federal decision maker. The President established the Council on Environmental Quality (CEQ) under NEPA to implement the provisions of the Act and review and appraise federal programs and activities in light of NEPA policy. In 1978, the CEQ promulgated regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508). These regulations outline the responsibilities of federal agencies and provide specific procedures for preparing EISs to comply with NEPA. The Department of the Air Force implementing regulation promulgated at 32 CFR 989, entitled *Air Force Instruction (AFI) 32-7061, Environmental Impact Analysis Process (EIAP)*, implements CEQ regulations with regard to Air Force actions and defines the steps and milestones in the EIAP.

The proposed action may affect resources under the jurisdiction of other federal agencies as well. Consultation with the U.S. Fish and Wildlife Service (USFWS), pursuant to Section 7 of the Endangered Species Act (16 USC 1531-1544, December 28, 1973, as amended), is required for actions that may have an effect on threatened or endangered species prior to implementation of the action. Consultation with the State Historic Preservation Office (SHPO), pursuant to Section 106 of the National Historic Preservation Act, is required for actions that may have an effect on archeological or historical resources that have been, or may be, eligible for listing on the National Register of Historic Places. Coordination with the U.S. Army Corps of Engineers (USACE), pursuant to Section 404 of the Clean Water Act (33 USC 1251 *et seq.*, June 30, 1948, as amended February 4, 1987), is necessary if the proposed action is likely to affect wetlands under USACE jurisdiction.

## **1.5. THE DECISION AND THE DECISION MAKER**

The environmental analysis in this document evaluates the potential environmental impacts of implementing the proposed action and the no action alternative. The Air Force will weigh the analysis presented in this document in the decision-making process associated with the expansion and operation of a training facility at the Vigilant Warrior site. The Air Force will rely heavily on the results of environmental analyses presented in this EA as well as operational, economic, and other considerations when deciding whether to implement the proposed expansion project at Vigilant Warrior.

### **1.5.1. Interagency and Intergovernmental Coordination**

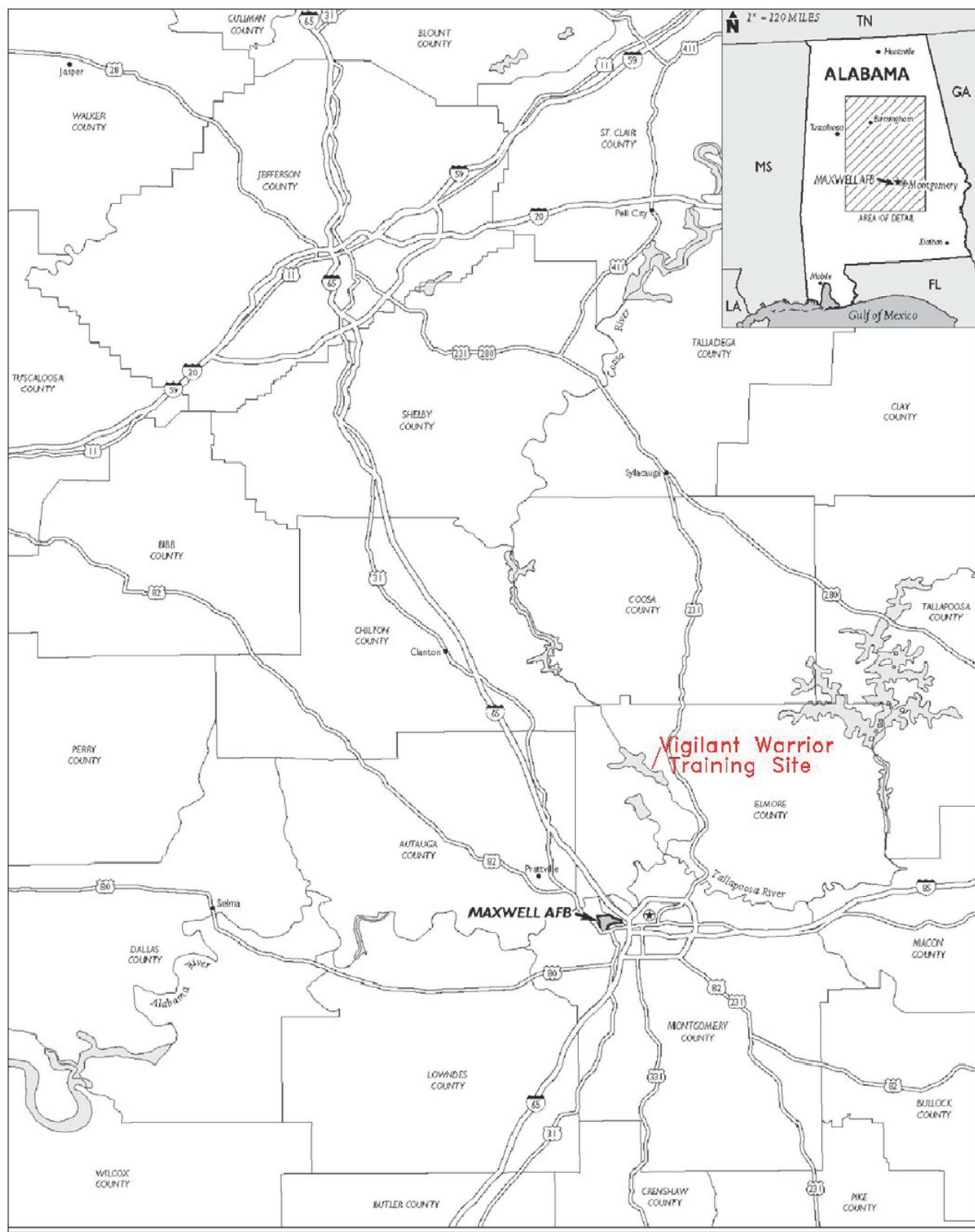
Federal, state, and local agencies with jurisdiction that could be affected by the proposed or alternative actions have been notified and consulted. Interagency and Intergovernmental Coordination for Environmental Planning (IICPEP) letters and responses are presented in Appendix A. This coordination fulfills Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, July 14, 1982, which requires federal agencies to cooperate with and consider state and local views in implementing a federal proposal. EO 12372 is implemented by the Air Force in accordance with Air Force Instruction (AFI) 32-7060, Interagency and Intergovernmental Coordination for

Environmental Planning.

#### **1.6. INTRODUCTION TO THE LOGIC, SCOPE, AND ORGANIZATION OF THE ENVIRONMENTAL ASSESSMENT**

This EA presents a systematic interdisciplinary analysis of the impacts associated with expansion of facilities and increased use of the Vigilant Warrior (VW) training facility in Elmore County, Alabama. The environmental issues outlined in Section 1.3 have been analyzed to assess the current conditions of the existing Vigilant Warrior site, as well as adjacent lands in the immediate vicinity. Furthermore, these issues have been analyzed to identify potential changes attributable to the proposed action or the no-action alternative. Section 2 provides a detailed description of the proposed action and the no-action alternative. Section 3 presents a survey of the affected environment as it currently exists. Only those environmental elements that would be affected by, or would affect, the proposed action or the no-action alternative are described in detail. Section 4 describes changes to the environment that would result from implementing the proposed action or the no-action alternative. In addition, Section 4 addresses the positive or negative impact potential of implementing these changes. The environmental media are described and analyzed in relation to their potential effects. Section 5 provides the names of the interdisciplinary team members responsible for preparing this EA. All persons and organizations contacted during the course of the EA preparation, as well as published and unpublished materials used to prepare the EA are listed in Section 6.

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**Figure 1.1. Vigilant Warrior Training Area**

**Environmental Assessment  
Vigilant Warrior Training Site  
Elmore County, AL**

(Utilized by Maxwell AFB Montgomery, AL)

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		APPROVED BY			

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## **2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES**

### **2.1. DESCRIPTION OF THE PROPOSED ACTION**

The Chief of Staff of the Air Force has proposed to retool the Air and Space Basic Course to better train all Air Force officers in expeditionary skills. In order to accommodate the additional training requirements, Maxwell AFB is proposing to expand expeditionary training at the existing Vigilant Warrior training facility.

#### **2.1.1 Existing Site Conditions and Training Activities**

Currently, Officer Training School (OTS) utilizes the site for approximately 140 Basic Officer Training (BOT) students and a team of instructors and support personnel totaling 30 individuals. These training classes are encamped at the Vigilant Warrior training site for approximately four days at a time, approximately eight times per year. The existing Squadron Officer College (SOC) and Air Force Officer Accession and Training School (AFOATS) training classes would continue to be conducted at the site. Students are billeted in tents in a central location known as the “Red Gate” cantonment area. Training exercises include leadership exercises, woodland training exercises, combat simulation scenarios, and obstacle/challenge courses.

The facility is located on approximately 201 acres of semi-developed land in Elmore County that is leased from Alabama Power Company. A fence has been installed around the entire perimeter, maintaining a 250 foot internal buffer zone of existing vegetation. A central area accessed by the Red Gate has been established as a base camp, containing 26 permanent tent sites, a warehouse/storm shelter, a camouflaged operations/support building, an Alaskan Shelter, two bathhouse/latrine trailers, an outdoor instruction area, and related utilities and support facilities. Existing facilities at the “Blue Gate area” include a covered pavilion, bleachers, one bathhouse, two trailers, and a simulated airfield. In various locations across the Vigilant Warrior training site, various obstacle courses and instructional areas have been established. Near the “Black Gate area,” there are three small huts. The remainder of the VW site remains primarily wooded.

#### **2.1.2 Proposed New Facilities and Training Activities**

In order to implement the new requirements for ASBC classes, the site would need to accommodate up to 420 students and 55 instructors for a period of four to six days, approximately 10 times per year. This would result in approximately 4000 additional commissioned officers being more fully trained each year. It is anticipated that the classes would be transported by bus, with the exercises being conducted from Sunday through Friday. Other military training could be conducted at the site as needed and as the site is available.

The proposed action is to expand the current Red Gate base camp by constructing a minimum of 16 additional tent structures set on concrete slabs. Two additional

bathhouse/latrine trailers and accompanying septic systems would be added on site to handle the increased number of students per class. The existing shower/latrine trailers and septic system would be repaired or upgraded. In addition, utility service lines within the VW property would be upgraded to handle the increased demand for water, electricity, and communications. A water storage tank/system may be added. Utility systems serving the VW site have the capacity to handle the increased usage. Fencing, lighting, a back-up generator, and other support structures would be added at the Red Gate camp. Road maintenance and repairs, consisting of grading and adding gravel, would be accomplished.

In the area near the Blue Gate, proposed new facilities include: a new bathhouse, latrine trailer, sun shelter, and warehouse/storm shelter facility. A minimum of eight new tent pads for operations tents are proposed on the Helipad cleared area. An additional septic field would be added.

A new cantonment area, separate from the existing base camp, is proposed for fiscal year 2012. The area would consist of a minimum of 16 tent structures, a latrine, and a storage building/weather shelter.

Various additional field training aids, obstacle courses and trails would be expanded and increased throughout various sections of the property, leaving the site as naturalized as possible within the confines of the perimeter buffer zone. In order to minimize disturbance to the creeks and creek banks, several footbridges would be repaired/replaced, and a few new footbridges installed. Road improvements, consisting of grading and adding gravel to existing roads, would be completed. (Figure 2.1, Proposed Facilities Location Map).

Proposed training activities would include group instruction, strategic leadership exercises, combat operation simulations, and obstacle course/challenge courses. Use of paintball equipment, blank fire, and a battlefield noise simulator may be included in training. The noise simulator would be used near the Red Gate area in the interior of the VW property, maintaining an internal buffer zone of 250 feet in order to minimize noise impacts, as evaluated in section 4.13.

At the end of the lease, the Air Force will remove improvements and restore property in accordance with the terms of the lease.

## **2.2. ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION**

### **2.2.1. Gunter Annex**

An approximate two (2) acre sports field located on Gunter Annex was considered but was eliminated for reasons similar to the original purpose for considering this action. Due to the field's small size and lack of natural seclusion, unacceptable distractions to the intended training objectives would commonly occur.

### **2.2.2. Additional Alabama Power Company-Owned Sites (previously evaluated)**

Two (2) other properties, also owned by Alabama Power Company, were considered but were eliminated from further consideration during the original Environmental Assessment conducted for this action in 1994.

The first site is located along the western side of the Coosa River, just below the Lake Jordan dam. Approximately 100 acres in size, more than one-half of the site is very steep, dropping 100 feet (ft) or more down to the Coosa River, therefore, this makes it unacceptable for the planned training. The remaining land area would be too small to provide the presently desired training environment or to allow room for changes/additions to the training performed at the site.

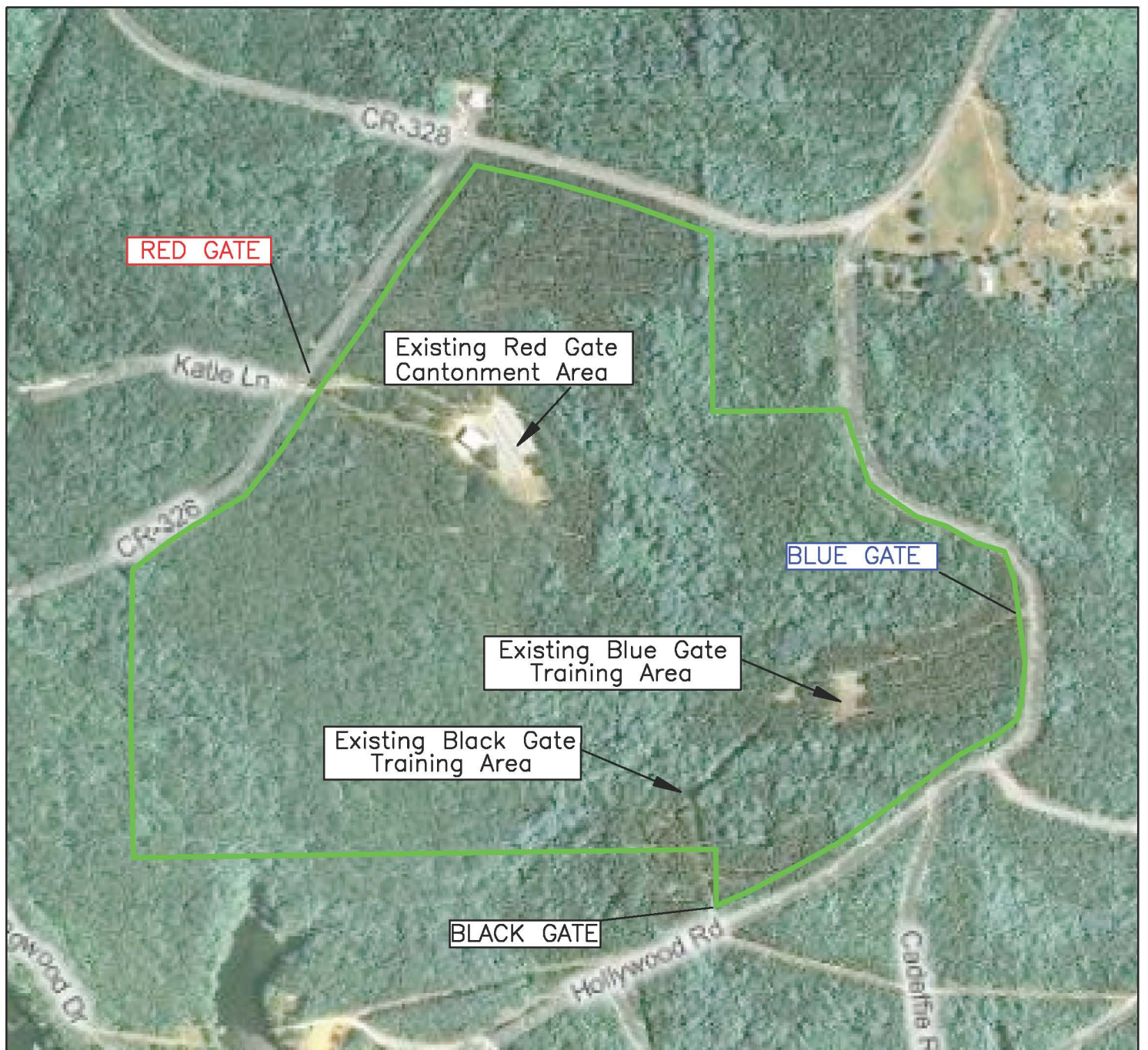
The second property is located along the eastern side of the Coosa River, across from the first site. The shape of this site is long and narrow, with the southern portion touching the northern portion at only one (1) corner. As a result, this limits the manner in which the property could be used for the planned training. The larger portion of the site is crossed by a number of public roads and prevents the property from being secured, or secluded, from interference from vehicular traffic or intrusion by the curious public.

Of the properties originally considered for the training exercises, the Vigilant Warrior site was the only property that would meet the mission goals and training requirements. Therefore, the other two potential sites were eliminated from further study. Because of the lack of available space on MAFB, the Air Force investment in the current VW site, and lack of other potential field-training sites, this site was deemed the only practicable alternative for the desired expanded field training.

### **2.3. DESCRIPTION OF THE NO-ACTION ALTERNATIVE**

The no-action alternative would consist of continuing Vigilant Warrior training as it is currently practiced. There would be no provision for the additional training needs associated with the retooling of the Air and Space Basic Course.

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Source: Windows Live

#### Legend

— Property Boundary

SCALE in Feet



Figure 2.1

Proposed Facilities Location Map

Environmental Assessment  
Vigilant Warrior Training Site  
Elmore County, AL  
(Utilized by Maxwell AFB  
Montgomery, AL)

### **3.0 AFFECTED ENVIRONMENT**

#### **3.1. INTRODUCTION**

This section describes the existing environmental resources that would be affected by, or would affect, the proposed action or the no-action alternative. Within this context, only those resources that are relevant to the decision to be made are described in detail. The anticipated effects of the proposed action and the no-action alternative are discussed in Section 4.0, Environmental Consequences.

#### **3.2. INSTALLATION MISSION AND SITE LOCATION**

Maxwell AFB is located one (1) mile west-northwest of Montgomery, Alabama. It is home to Air University Headquarters, Air War College, Air Command and Staff College, and a number of other research and training centers. One of the programs within Air University, the OTS program, was developed to train college graduates with little or no previous military training to become U.S. Air Force (USAF) officers. In 1987, Project ACT, a Leadership Reaction Course, was added to the curriculum to provide leadership training necessary to produce effective officers. This course was later refined to provide more practical leadership training and became Vigilant Warrior in 1991. The existing site in Elmore County has been and continues to be used for OTS training and Medical Readiness Courses (MAFB, 1994). The students are currently being bussed approximately 30 miles from Maxwell AFB to the site for training.

#### **3.3. COMPATIBILITY OF LAND USE**

Unincorporated Elmore County is rural in nature. Most commercial, medium-density residential and industrial land uses are located in the seven (7) incorporated communities in the county. Land uses in the vicinity of the proposed site are mainly forestry, or undeveloped, and seasonal residential. An Air Combat Command monitoring site is located north of the proposed site. Most of the land in the vicinity is owned by Alabama Power Company, as is the site. Two (2) small residential subdivisions have been developed within one mile of the site and adjacent to Lake Jordan by Alabama Power Company. A commercial marina and a small number of permanent and seasonal residences are located south of the Vigilant Warrior site. Most of the residences are located on waterfront property adjacent to Lake Jordan and are more than 1500 feet from the boundary of the site. The nearest residential use is approximately 800 feet from the site. The only development within 500 feet of the site is a volunteer fire department. The site itself is forested with limited development of the training facility. The Elmore County Comprehensive Plan (Elmore County, 2007) does not indicate any proposed development in that area of the county that would be incompatible with the proposed training facility.

### **3.4. AIR QUALITY**

Air quality, in a given location, is described by the concentrations of various pollutants in the atmosphere, expressed in units of parts per million (ppm), milligrams per cubic meter ( $mg/m^3$ ), or micrograms per cubic meter ( $\mu g/m^3$ ). Air quality is determined by a number of factors, including the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and local and regional meteorological conditions. The significance of a pollutant concentration is determined by comparison(s) with federal and/or state air quality standards. These standards represent the maximum concentrations of various pollutants allowable to protect public health and welfare with a reasonable margin of safety. Federal standards established by the U.S. Environmental Protection Agency (USEPA) are termed the National Ambient Air Quality Standards (NAAQS). These standards include maximum concentrations for ozone ( $O_3$ ), carbon monoxide (CO), nitrogen dioxide ( $NO_2$ ), sulfur dioxide ( $SO_2$ ), lead (Pb), particulate matter – which is further divided by size of the particles [equal to or less than 10 microns in diameter ( $PM_{10}$ ), and equal to or less than 2.5 microns in diameter ( $PM_{2.5}$ )]. (Although  $O_3$  is considered a criteria pollutant and is measurable in the atmosphere, it is often not considered as a pollutant when reporting emissions from specific sources, because  $O_3$  is not typically emitted directly from most emission sources. It is formed in the atmosphere from its precursors – nitrogen oxides ( $NO_x$ ) and volatile organic compounds (VOCs) – that are directly emitted from various sources. Thus, emissions of  $NO_x$  and VOCs are commonly reported instead of  $O_3$ .) (USEPA 2008a). Current NAAQS standards are shown in Table 3.1. In Alabama, ambient air quality standards are identical to the Federal NAAQS.

#### **3.4.1. Regional Air Quality Status**

Determination of a violation of a primary standard is dependent upon the pollutant and standard being considered. Generally, short term standards for CO and  $SO_2$  may be exceeded once per year. A violation occurs when a monitoring site records a pollutant level that exceeds established standards twice in one year. Violations of the  $O_3$  and  $PM_{10}$  standards are calculated as an average over three (3) years of data. The violation occurs when the number of times the standard is exceeded, over a three (3) year period, averages out to more than one (1) per year. The annual standards for  $NO_2$ ,  $SO_2$ , and  $PM_{10}$ , as well as the quarterly standard for Pb, are considered to be violated for any single recorded event that exceeds the acceptable limit. Once primary NAAQS have been violated three (3) or more discontinuous times over three (3) years in a given air-quality control region or other state-designated area, a designation of “nonattainment” is applied. Areas are designated as unclassified when there is insufficient monitoring information for determination of attainment status. Unclassified areas are often well removed from urbanized locations and are generally accepted by the USEPA as being in attainment of the NAAQS. There are currently no portions of Elmore County (location of the proposed action) or adjacent counties (most notably Montgomery and Autauga Counties) included in either a nonattainment area or

an air quality maintenance area. Elmore County is in attainment for all criteria pollutants, and air quality is better than the national standards for particulates and SO<sub>2</sub> (40 CFR 81.301, amended 1991)(USEPA, 2008c).

**Table 3.1**  
**National Ambient Air Quality Standards**

<b>Pollutant</b>	<b>Standard Value (<math>\mu\text{g}/\text{m}^3</math>)<sup>a</sup></b>	<b>Standard Type</b>
CO		
1-hr average	40,000	Primary
8-hr average	10,000	Primary
NO <sub>2</sub>		
Annual average	100	Primary and secondary
O <sub>3</sub>		
1-hr average <sup>b</sup>	0.12	Primary and secondary
8-hr average <sup>c</sup>	0.75	Primary and secondary
Lead		
Quarterly average	1.5	Primary and secondary
PM <sub>10</sub>		
24-hr average <sup>d</sup>	150	Primary and secondary
Annual average <sup>e</sup>	50	Primary and secondary
PM <sub>2.5</sub>		
24-hr average <sup>f</sup>	35	Primary and secondary
Annual average <sup>g</sup>	15	Primary and secondary
SO <sub>2</sub>		
3-hr average	1,300	Secondary
24-hr average	365	Primary
Annual average	80	Primary

CO=carbon monoxide      NO<sub>2</sub>=nitrogen dioxide      O<sub>3</sub>=ozone

SO<sub>2</sub>=sulfur dioxide       $\mu\text{g}/\text{m}^3$ =micrograms per cubic meter

PM<sub>2.5</sub>=particulate matter equal or less than 2.5 micrometers in diameter

PM<sub>10</sub>= particulate matter equal or less than 10 micrometers in diameter

<sup>a</sup> Units for ozone are parts per million (ppm).

<sup>b</sup> The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is  $\leq 1$ . The 1-hour NAAQS will no longer apply to an area 1 year after the effective date of the designation of that area for the 8-hour ozone NAAQS. The effective date for most areas is 15 June 2004.

<sup>c</sup> To attain the 8-hour ozone standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

<sup>d</sup> The 24-hour standard for PM<sub>10</sub> is not to be exceeded more than once per year.

<sup>e</sup> To attain the annual PM<sub>10</sub> standard, the expected annual arithmetic mean PM<sub>10</sub> concentration at each monitor within an area must not exceed 50  $\mu\text{g}/\text{m}^3$ .

<sup>f</sup> The PM<sub>2.5</sub> 24-hour standard is based on the 3-year average 98th percentile of 24-hour concentrations at each population-oriented monitor.

<sup>g</sup> The PM<sub>2.5</sub> annual standard is based on 3-year average of annual arithmetic means.

Source: USEPA, 2008b

### **3.4.2. Air Quality Monitoring**

The nearest air quality monitoring stations include an O<sub>3</sub> monitor in Wetumpka in Elmore County; another O<sub>3</sub> monitor in Autauga County, and two (2) stations in Montgomery County, a monitor for PM<sub>10</sub> in downtown Montgomery, and a station monitoring both O<sub>3</sub> and PM<sub>10</sub> in Grady, Alabama. No instances of exceeding any NAAQS have been recorded for any of the monitored criteria pollutants in the last three (3) years.

### **3.4.3. Baseline Emissions**

There are currently no operations or activities occurring on the proposed property for which emissions of air pollutants are calculable.

## **3.5. HAZARDOUS MATERIALS AND WASTES**

### **3.5.1. Hazardous Materials**

The only hazardous materials that may be present at the site are the cleaning supplies or small quantities of petroleum products necessary for operation of small equipment needed for maintenance of the facility.

### **3.5.2. Hazardous Wastes**

There is no hazardous waste currently generated at this site.

## **3.6. UTILITY SYSTEMS**

### **3.6.1. Potable Water Supply**

Potable water service in the study area is provided by the Central Elmore Water Authority, which serves the eastern shore of Lake Jordan and the surrounding area. Central Elmore Water Authority is the largest water provider in the county and serves over 10,000 residential and commercial customers. It operates a treatment facility that utilizes Lake Martin for a water source. There is no limit to the water service available to the site. The Authority currently has a three-inch water main along two borders of the site, and the site is currently served with one-inch or less water lines internal to the site. According to the Water Authority manager, water service to the site is not limited (CEWA, 2008).

### **3.6.2. Sanitary Wastewater**

There is no public sanitary sewer system in the study area. Wastewater is treated by private on-site systems, such as septic tanks. The existing site is served by one septic tank in the Red Gate area and one septic tank in the Blue Gate area.

### **3.6.3. Stormwater Management**

Stormwater in the study area is collected by road-side ditches which empty into natural

drainage ways that flow into Lake Jordan.

There is no stormwater utility in the area.

#### **3.6.4. Solid Waste Management**

Solid waste disposal services are available from private contractors. Elmore County does not operate a solid waste service.

#### **3.6.5. Transportation Systems**

The study area is served by U.S. Highway 231 which is identified in the Elmore County Comprehensive Plan as a major arterial for the county. The site is accessed by County Road (CR) 320, CR 328 and CR 326, which are all collector streets (Elmore County, 2007).

There are no existing traffic circulation or capacity problems in the study area.

#### **3.6.6. Electricity**

Elmore County has abundant electricity furnished by Alabama Power which operates five dams in the county. The site is presently served by Alabama Power (Elmore County, 2007).

### **3.7. BIOLOGICAL RESOURCES**

Biological resources include the native and introduced plants and animals in the proposed Vigilant Warrior site area. Discussion is divided into wildlife, vegetation, threatened and endangered species, and sensitive habitats.

Information was obtained by literature search, contact with federal and state agencies (USFWS, Alabama Department of Conservation, and the Mobile District USACE), and on-site visits were conducted in April 1994 and in May 2008. At that time there were no resources that warranted protection. An updated consultation with the above agencies revealed that the situation remains the same.

#### **3.7.1. Wildlife**

Wildlife in Elmore County includes numerous birds, reptiles, and common mammals. Game species are abundant in the area and Alabama Power Company has permitted hunting on site in the past. No hunting has been allowed since 1995 and the use of the site for training has diminished the use of the property by wildlife. However, the surrounding area is still primarily rural so no negative impact from the training has occurred from using the site for training.

Lake Jordan is located less than one-half mile southwest of the site, with a small drainage area extending into the site area.

Excellent waterfowl habitat is available at the lake; however, the lake receives minimal

usage due to its distance from any migratory pathways. Wood duck (*Aix sponsa*) is the most abundant waterfowl species (USACE 1982e). Present all year, they utilize the numerous beech and other cavity-producing trees for nesting. Wading birds are confined to the shallows along Lake Jordan. The surrounding woodlands provide rookery habitat for species such as the great blue heron (*Ardea herodias*).

Reptiles and amphibians are present, with the latter concentrating in the vicinity of stream beds. Representative species would include the hog nosed snake (*Heterodon platyrhinos*), banded water snake (*Nerodia fasciata*), timber rattlesnake (*Crotalus horridus*), pigmy rattlesnake (*Sistrurus miliarius*), racer (*Coluber constrictor*), eastern gray rat snake (*Elaphe obsoleta spiloides*), cottonmouth (*Agkistrodon piscivorus*), and common king snake (*Lampropeltis getulus niger*)(MAFB, 1994).

### **3.7.2. Vegetation**

Elmore County lies along the southern terminus of the Piedmont Upland physiographic region in Alabama. The vegetation associated with this region is closely tied with its geology, topography, soils, and climate (see Section 3.10). In general, pine-oak forests dominate the dry upland terraces. Beech (*Fagus americanus*) and other hardwoods are found on moist, shaded slopes and ravines. Bottomlands and creek areas favor sweetbay (*Magnolia virginiana*), blackgum (*Nyssa sylvatica*), sycamore (*Platanus occidentalis*), river birch (*Betula nigra*), black willow (*Salix nigra*), red maple (*Acer rubrum*) and other hardwoods.

The Vigilant Warrior site is mainly upland pines on the terraces, mixed pine-hardwoods on the slopes, and mixed bottomland hardwoods near the streams. The upland terraces, at approximately 50 to 60 acres of the total site area, are abandoned pasture land. Old field succession is evident in these areas by the predominance of loblolly pine (*Pinus taeda*) (12 to 15 years old), grass, broomshead, Virginia creeper (*Parthenocissus quinquefolia*), and Japanese honeysuckle (*Lonicera japonica*). The loblolly pine, shortleaf pine (*Pinus echinata*), sweet gum (*Liquidambar styraciflua*), and scrub oak (*Quercus laevis*) are located on the slopes between the upland terrace and the bottomlands. Beech and tulip poplar (*Liriodendron tulipifera*) are common bottom hardwood species. Understory species are prevalent and include sumac (*Rhus copallina*), highbush blueberry (*Vaccinium ssp.*), witch-hazel (*Hamamelis virginiana*), poison oak, poison ivy (*Rhus radicans*), dewberry, azalea (*Rhododendron ssp.*), wildflowers, and ferns (MAFB, 1994).

The site encompasses the head of two small streams leading into Lake Jordan.

Alabama Power maintains forestry management over the site and has selectively cut several areas of the site over the years.

### **3.7.3. Threatened and Endangered Species**

Protected species with potential and known occurrences in Elmore County include the bald eagle (*Haliaeetus leucocephalus*), Tulotoma snail (*Tulotoma magnifica*), Fine-lined

pocketbook mussel (*Lampsilis altilis*), Rough hornsnail (*Pleurocera foremani*), Interrupted rocksnail (*Leptoxis foremani*), Alabama canebrake pitcher plant (*Sarracenia rubra* ssp. *Alabamensis*), and Georgia rockcress (*Arabis georgiana*). In addition, critical habitat for several other threatened or endangered species of mussels exists in the Coosa River, which is partially located in Elmore County, Alabama. No suitable habitat for these aquatic mussels exists in the vicinity of the proposed action.

The bald eagle is no longer endangered by the USFWS, but is still protected under the Bald and Golden Eagle Protection Act. Bald eagles are primarily fish eaters and nest in unpopulated areas close to water. A nesting pair was previously located in Chilton County, approximately 12 miles from the site. Early coordination with the state and federal agencies and site visits revealed no known listed or endangered species on the site (USFWS, 2008). Appendix B contains federally listed and category plants and animals for Elmore County, Alabama, published by the U.S. Fish and Wildlife Service.

#### **3.7.4. Sensitive Habitat**

Sensitive habitat includes federally regulated areas, migration routes and wetlands.

The only potential wetland areas near the site are associated with the adjacent streams and slough leading into the Lake Jordan. Initial examination of aerial photographs and on-site inspections show no wetlands on the site, although some wet habitat species may be associated with the drainage areas (small streams) that drain to Lake Jordan (MAFB, 1994).

No current critical use habitat was evident in the area.

### **3.8. CULTURAL, ARCHEOLOGICAL, AND HISTORICAL RESOURCES**

#### **3.8.1. Recreational Resources**

Recreational activities in the study area are centered on use of Lake Jordan and include fishing, boating, swimming, and water-skiing. A nearby marina provides a boat ramp, storage, and retail sales of food and boating-related items. A number of other marinas are located on the west side of Lake Jordan. A Young Men's Christian Association (YMCA) camp is located south of the study area. The abundance of forests in the area also attracts hunters. Parts of the surrounding land have been leased to individuals as a private hunting area.

#### **3.8.2. Archeological and Historical Resources**

While no direct data exists, based on theories developed from artifacts collected at other locations in the country, it is believed that humans have inhabited Alabama since 12,000 Before Christ (B.C.), in approximation. The area was first occupied by small, highly mobile bands of hunters/gatherers. Very little evidence of ancient human occupation of the area remains beyond scattered projectile points and other bone/stone tools. Later, Creek Indians occupied the area including Elmore and Coosa Counties. However, after the

signing of the Removal Treaty of 1832, the Creeks were driven from the area.

Elmore County was established in 1866 A.D. from the surrounding counties. Agriculture was the primary occupation, where the primary use of land was to grow cotton. Moreover, cotton was also the primary crop in the area, and it remained so through the early 1900s, until the boll weevil infestation of 1915 and falling cotton prices gradually reduced the number of acres in its production. The Jordan Dam and power house were built on the Coosa River in 1928, creating Lake Jordan. This provided a source of electricity for the industries that have become established in the county.

### **3.8.2.1 Archeological Surveys**

Cultural Resource surveys were performed for the entire VW site. As a result of a 1997 archeological survey, conducted by Brockington and Associates, Inc., two archeological sites and three isolated finds were identified at the VW property. As a finding of this 1997 survey, one archeological site and the three isolated finds were not recommended as eligible for the National Register of Historic Places (NRHP). The second archeological site was recommended for further archeological testing (Brockington, 1997).

In 1998, Brockington conducted an NRHP evaluation of the site of interest at VW. Six 1m x 1m test units were excavated to determine the presence of artifacts. In order for an archeological site to be considered eligible for the NRHP, it must produce information important to history or prehistory. The VW site investigated lacked sufficient integrity to generate such information. Therefore, the site was not eligible for the NRHP, and no further management considerations were recommended for this site (Brockington, 1998). Therefore, there are no known archeological sites at the VW property that warrant special protection.

The Alabama State Historic Preservation Office has previously received copies of the archeological surveys, and a SHPO letter dated April 25, 2008, contains their concurrence with the proposed action (Appendix A).

## **3.9. WATER RESOURCES**

### **3.9.1. Surface Water**

While surface water is the dominant feature of the hydrology in the Lake Jordan area, its presence is limited on site to a small first and second order stream that eventually lead to Lake Jordan and part of the Coosa River Drainage Basin.

Stream flow and precipitation are key factors affecting surface water. Average annual precipitation is 52 inches in the Coosa River basin (USACE 1982a). Seasonal variations in climate will affect stream flow, with flow being at its lowest in October when rainfall is minimal. Runoff increases between the months of November through January and is primarily due to winter rains and decreased evaporation. Peak flows coincide with spring rains, diminishing with reduced rainfall and increased evaporation in summer.

### **3.9.2. Groundwater**

Groundwater is closely tied to regional geology. Most of the Piedmont Province is dominated by metamorphic rock at the surface. In the Lake Jordan area, the Coker Aquifer is found at the surface, and overlays metamorphic water-bearing rocks such as schist, gneiss, phyllite, and diorite. Estimated well yields for the Coker Formation are 0.1 to 0.5 million gallons per day (MGD). Elevations below 300 ft mean sea level (MSL) are in the zone of metamorphic rock. Here, water permeability drops and wells produce less than 0.1 MGD (USACE 1982a). Larger yields may occur in random cavities, located by extensive test drilling. Permeability increases near stream sites. Regional recharge areas for groundwater are to the north and northeast.

Groundwater quality is tied to its aquifer characteristics. Potability is considered good in the area, with low chloride levels and low hardness at zero to six ppm (0 to 6 ppm); iron content may be high in the area.

## **3.10. EARTH RESOURCES**

### **3.10.1. Geology**

The geology of the area is typical of the Piedmont Upland physiographic division. This division is complex with a dissected surface developed over disordered igneous and metamorphic rock. Some rocks date to the Precambrian Age. While rich mineral deposits of coal, mica, graphite, iron, aluminum, and tin are present in the Coosa River basin, no concentration areas are indicated near Lake Jordan (USACE 1982a).

This region of Alabama is in Seismic Risk Zone 2 (USACE 1982d). This zone has the potential for a moderate damage earthquake.

### **3.10.2. Topography**

Topography in this area of the Piedmont is moderately rolling, upland developed on weathered metamorphic rock. Slopes are gentle, on site varies from 252 MSL at lake level to over 340 ft MSL on the terraces (USGS, 1987).

### **3.10.3. Soils**

The soils of the proposed site include sandy loams of the Redbay, Orangeburg, Faceville, and Bowie series. The parent material of soils is moderate sands and sandy clays of the Coastal Plain. The permeability and water holding capacity of the Faceville is high to very highly erodible, while the other soil types are low to moderately erodible.

A small amount of mixed alluvial soils is also present along the streambeds, having mixed textures and variable drainage conditions. The soils are predominantly poorly drained, with slow to very slow runoff, and very slow internal drainage (USDA, 1955).

### **3.11. SOCIOECONOMICS**

#### **3.11.1. Socioeconomic Resources**

Socioeconomics comprise the basic attributes of population and economic activity within a particular area or Region of Influence (ROI) and typically encompass population, employment and income, and industrial/commercial growth. Impacts on these fundamental socioeconomic resources can also influence other components such as housing availability and public services provision.

Socioeconomic data are presented for the City of Montgomery, Montgomery County, Elmore County, the State of Alabama, and the U.S. to analyze baseline socioeconomic conditions in the context of regional, state, and national trends.

#### **3.11.2. Population**

##### Regional

The Montgomery Metropolitan Statistical Area (MSA) (composed of Montgomery, Autauga, and Elmore Counties) population increased over 60,000 from 1990 to 2006, and half of this increase occurred between 2000 and 2006. Growth in Elmore County was strongest; between 2000 and 2006 that population grew 14.9 percent, while the population of Autauga County increased 13.9 percent, and the increase in Montgomery County was negligible over the same period. Both the City of Montgomery and Montgomery County lagged behind the State of Alabama and the United States growth rate over the last decade, while the growth in Elmore County far exceeded the state and national rates. The Montgomery MSA population is expected to increase over 100,000 to 433,292 between 2000 and 2025 (University of Alabama, 2002). Elmore County is the third fastest growing county in the state, and it is projected to be the fastest growing county in Alabama by 2010 (Elmore County, 2008).

**Table 3.2****Population for the United States, State of Alabama, Montgomery MSA,  
Montgomery County, and Elmore County, 1990-2006**

Year	United States Population	Alabama Population	Montgomery MSA	Montgomery County Population	Elmore County Population
1990	248,709,873	4,040,587	305,175	209,085	49,210
2000	281,421,906	4,447,100	333,055	223,510	65,874
2006	299,398,484	4,627,851	365,962	225,791	75,688
% Change '90-'00	13.2	10.1	9.1	6.9	33.9
% Change '00-'06	6.4	4.1	9.9	1.0	14.9

Source: (USCB, 2008c)

Maxwell-Gunter Air Force Base

The current personnel levels associated with Maxwell-Gunter AFB total an estimated 12,182. This total is composed of 2,339 active duty personnel, 1,218 guard and reserve personnel, 3,506 civilians, and 2,138 contract employees. The remainder of the Maxwell-Gunter AFB population is made up of students attending classes on base.

**3.11.3. Regional Job Growth and Unemployment**

The service-producing sectors accounted for more than 40 percent of jobs in the Montgomery MSA in 2006. The Montgomery MSA maintains a diverse manufacturing base, including: food/kindred products; transportation equipment; textile/apparel; machinery/equipment; printing/publishing; furniture/fixtures; software engineering; and plastics. The area is a major distribution center for the southeast, supporting large companies such as Consolidated Stores and Russell Corporation. The Information Technology industry is a growing part of the Montgomery area economy, with 125 companies located in the capital city in 2001. Five local universities and colleges and MAFB and its auxiliary location, the Gunter Annex provide opportunities for employment and supply a well-educated workforce. The Montgomery MSA as well as the State of Alabama has experienced a steady decline in the manufacturing sector since 1995. For example, from July 1998 to July 1999, Alabama manufacturing firms lost 9,300 jobs. Sixty percent of the jobs were in the textile and apparel industries (MAFB, 2004). However, several large companies, including Hyundai Motors, have opened factories in the Montgomery area since 2000, contributing additional manufacturing jobs to the area.

The largest single contributor to the economy of the Montgomery region is the government sector. The U.S. military's presence in the region includes MAFB and its

auxiliary location, the Gunter Annex, which provide a broad spectrum of educational, training, command, and personnel support. The Public Affairs Office at MAFB estimates that the total economic impact of the military and civilian employment associated with the U.S. military in the region (including contracted dollars) in FY 2001 was \$1.101 billion (MAFB, 2001).

#### Job Composition

The labor force level for the Montgomery MSA was 139,528 jobs in 2000 (USCB, 2006). 2006 estimates were not available for all counties within the Montgomery MSA. However, the number of jobs concentrated in the retail and combined service industries consistently accounted for over 50 percent of the jobs in the MSA in 2000 (Table 3.3), and this figure was consistent during 2003 estimates (USCB, 2006). Over one-third of all jobs (53,497) in the Montgomery MSA were located in Elmore County in 2000. The highest percentage (over one-quarter) of Elmore County jobs were in the service sector, while the manufacturing and retail trade sectors held the second- and third-largest percentage of jobs. Elmore County had a slightly higher proportion of manufacturing jobs than the Montgomery MSA in 2000. By 2006, the three largest industrial sectors remained the same (combined services, manufacturing, and retail trade), although the combined number of jobs in service industries had increased from 26.5 to 34.5 percent of the overall employment.

**Table 3.3****Distribution of Employment by Industrial Sector, Montgomery MSA (2000) and Elmore County (2000, 2006 estimates)**

Industrial Sector	Montgomery MSA		Elmore County			
	2000		2000		2006	
	Number of Jobs	Percent	Number of Jobs	Percent	Number of Jobs	Percent
Agriculture	1,721	1.2	389	1.4	200	0.6
Construction	9,723	6.6	2,772	9.9	3,168	10.3
Manufacturing	16,037	10.8	4,066	14.5	3,965	12.9
Wholesale Trade	5,275	3.6	1,072	3.8	896	2.9
Retail Trade	17,469	11.8	3,349	12.0	3,778	12.3
Transportation and Utilities	6,559	4.4	1,449	5.2	2,218	7.2
Information	3,580	2.4	449	1.6	477	1.5
Finance, Insurance, and Real Estate	10,889	7.4	1,850	6.6	2,142	7.0
Services (combined)	60,077	40.6	9,898	26.5	10,617	34.5
Public Administration	16,489	11.2	2,676	9.6	3,347	10.9

Source: USCB, 2006

According to the Montgomery Chamber of Commerce, there are approximately 8,203 businesses located in Montgomery. Table 3.4 lists the region's ten largest employers, excluding MAFB, which is the largest area employer. Major manufacturers in Elmore County include GKN Aerospace, Neptune Technologies, Frontier Yarns, Russell Corporation, Madix, Inc, Arrowhead Composites, Hanil USA, YESAC Alabama Corporation, Quality Networks, Inc., and AES Industries.

**Table 3.4**  
**Top Ten Employers in the Montgomery Region (2005)**

Employer (Overall Rank)	Number of Employees
1. State of Alabama	9,500
2. Montgomery Public Schools	4,524
3. Baptist Health	4,300
4. Hyundai Motor Manufacturing Alabama, LLC	3,171
5. Alfa Insurance Companies	2,568
6. City of Montgomery	2,500
7. 754th Electronics Systems Group	1,943
8. Jackson Hospital & Clinic, Inc.	1,300
9. Rheem Water Heaters	1,050
10. Baptist Medical Center South	980

Source: (Montgomery Chamber of Commerce, 2008)

### Earnings

Average annual wages vary in Alabama due to factors such as the type of jobs available, the different industrial composition of the counties, the mix between seasonal and year-round work, and the extent of union activity. Many of the jobs in the Montgomery MSA provide relatively high wages, resulting in an annual average wage of \$34,880 in 2007—ranked third highest among the 12 MSAs in the state. Alabama’s average annual wage was \$34,950 in 2007 (USDL, 2007).

Per capita income is a broader measure of financial strength for the residents of a county, including resources such as dividends, rents, and government transfer payments, as well as wages. Montgomery County reported a per capita income level of \$23,194, while residents within the City of Montgomery earned a per capita income of \$23,028, according to 2006 projections. The state per capita income was estimated at \$21,270 in 2006, adjusted for inflation. Residents of Elmore County reported a per capita income of \$19,896, lower than state and MSA levels, based on the same 2006 dataset. The national per capita income exceeded that of the state, MSA, and the counties; in 2006 it was estimated to be \$25,267 (USCB, 2006).

### Unemployment

The data available from the U.S. Department of Labor on unemployment rates reveal that both Elmore County and Montgomery County had unemployment rates below those of the State of Alabama (Table 3.5) in 2000. However, by 2006, Elmore County’s unemployment rate had dropped from 3.5 percent to 3.0 percent, lower than the statewide unemployment level, while the change in Montgomery County’s unemployment level was statistically insignificant.

**Table 3.5****Unemployment Rates for Elmore County, Montgomery County, and State of Alabama: 2000, 2006 (estimated)**

Year	Elmore County	Montgomery County	State of Alabama
2000	3.5%	3.7%	4.1%
2006	3.0%	3.7%	3.5%

Source: USDL, 2008

**3.12. ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN****3.12.1. Environmental Justice**

In 1994, EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, February 11, 1994, was issued to focus attention of Federal agencies on human health and environmental conditions in minority and low-income communities. In addition, EO 12898 aims to ensure that disproportionately high and adverse human health or environmental effects on these communities are identified and addressed.

In order to provide a thorough environmental justice evaluation, this section gives particular attention to the distribution of race and poverty status in areas potentially affected by implementation of the proposed action. For purposes of this analysis, minority and low-income populations are defined as follows:

- **Minority Populations:** Persons of Hispanic origin, Blacks, American Indians and Alaska Natives, Asians, Native Hawaiian and Other Pacific Islanders, as well as those individuals who categorized themselves as "two or more races" or "some other race" on the Census 2000 questionnaire.
- **Low-Income Populations:** Persons living below the poverty level, based on U.S. Census Bureau intercensal data reported in 2006 for individual counties.

**3.12.2. Race and Poverty Status**

Data on population distribution by race for Montgomery County, Elmore County, and the State of Alabama in 2006 are summarized in Table 3.6. The minority population in Montgomery County is much higher than that of the state (56.1 percent versus 29.6 percent), while the ratio of minorities in Elmore County (24.1 percent) is lower than that found at the state level.

**Table 3.6**  
**Population Distribution: Montgomery County, Elmore County,**  
**and State of Alabama, 2006 estimates**

<b>Race Category</b>	<b>Montgomery County</b>	<b>% Total Pop</b>	<b>Elmore County</b>	<b>% Total Pop</b>	<b>State of Alabama</b>	<b>% Total Pop</b>
White	97,967	43.8	57,437	75.9	3,237,958	70.4
Black	118,676	53.1	15,465	20.4	1,209,321	26.3
American Indian and Alaska Native	592	0.3	409	0.7	20,592	0.4
Asian	3,385	1.5	1,135	1.5	45,882	1.0
Native Hawaiian and Other Pacific Islander	173	0.1	0	0.0	3,244	0.1
Hispanic	3,428	1.5	1,241	14.8	111,432	2.4
Other <sup>1</sup>	2,778	1.2	1,142	1.5	82,033	1.8
<b>TOTAL</b>	<b>223,571</b>	<b>100</b>	<b>75,688</b>	<b>100</b>	<b>4,599,030</b>	<b>100</b>

Source: USCB, 2008b

<sup>1</sup>Census 2000 allowed respondents to define their race as either White, Black, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, or Hispanic. In addition, respondents were allowed to report "Some other race" and were given the option of selecting two or more races (57 possible combinations). The "Other" category combines numbers for "Some other race" and all combinations of two or more races, and the Hispanic classification includes Hispanics or Latino of any race. This classification system could result in discrepancies between the numbers totaled in the table and actual totals.

Table 3.7 compares populations of Elmore County, Montgomery County, the State of Alabama, and the United States that were below the poverty level in 2006, based on U.S. Census Bureau estimates. Data reveal that the percent of the population below the poverty level in Montgomery County (18.2 percent) was higher than the state and national poverty levels, while Elmore County (14.0 percent) demonstrated a lower poverty level than the state, but slightly higher than the nation.

**Table 3.7****Poverty Status: Elmore County, Montgomery County, State of Alabama, and United States, 2006**

Elmore County	% Total Pop	Montgomery County	% Total Pop	Alabama	% Total Pop	United States	% Total Pop
unavailable	14.0	39,080	18.2	742,064	16.6	38,757,253	13.3

Source: USCB, 2008d

**3.12.3. Protection of Children**

Because children may suffer disproportionately from environmental health risks and safety risks, EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, was issued on April 21, 1997. EO 13045 helps to ensure that Federal agencies' policies, programs, activities, and standards address environmental risks and safety risks to children. This section identifies the locations where numbers of children may be disproportionately high (e.g., schools, childcare centers, family housing) in areas potentially affected by implementation of the proposed action.

As required by EO 13045, this analysis includes an assessment of the potential for children to be disproportionately exposed to environmental health risks and safety risks. According to the Maxwell-Gunter AFB Comprehensive Plan, as well as a field survey, there are no facilities adjacent to, or in the immediate area of, the proposed action that would contain disproportionate populations of children.

**3.13. NOISE**

The existing training facility is in a sparsely developed area of Elmore County. Noise conditions that currently exist include the associated noise with the current OTS training and students. There have been no known noise complaints or disruptions caused by the existing training facility. The training facility does not create a significant amount of noise for prolonged periods of time.

## **4.0 ENVIRONMENTAL CONSEQUENCES**

### **4.1. INTRODUCTION**

This section provides the scientific and analytic basis for comparing the environmental consequences of the proposed action and the no-action alternative. The potential effects of each alternative on issues and resources listed in Section 1 were analyzed. Environmental consequences of implementing the proposed action or the no-action alternative were evaluated. Only the relevant resources are discussed in detail in this section. Refer to Section 3.0, Affected Environment, for a description of the environmental resources of the proposed site and vicinity as they currently exist.

### **4.2. CHANGES IN INSTALLATION MISSION**

The fundamental mission of the OTS program at Maxwell AFB, to provide students with the training needed to become USAF officers, would not change, nor would there be a change in the objectives of the field exercises proposed in Elmore County.

### **4.3. COMPATIBILITY OF LAND USE**

The proposed action would not affect existing land uses on, or future uses of, adjacent properties. The activities planned for the site would not result in any off-site effects. The character of the area would not be changed because development of the site is proposed with a 250-foot internal buffer that would be maintained around the site perimeter. The majority of the site would remain in its present, undeveloped condition. Use of the site for field training exercises, which may involve use of noise simulators, would be limited to internal areas of the site. Therefore, there would be limited potential for off-site effects. The training facility is compatible with present and reasonably foreseeable future land uses in the vicinity of the site.

Under the no-action alternative, the site would continue to be used by the USAF for limited training exercises. The site would remain in its present, semi-developed condition. Implementation of the no-action alternative would result in no changes in impacts to land use compatibility.

### **4.4. AIR QUALITY**

#### **4.4.1. Regional Air Quality**

The Clean Air Act (40 CFR Parts 50 and 51) as amended in August, 1977, and November, 1990, directs that the NAAQS must be maintained nationwide. Criteria for determining the significance of air quality impacts are based on federal, state, and local provisions for attainment and maintenance of the NAAQS, as well as any existing plans, programs, or projects involving areas impacted by proposed actions or alternatives. Section 176 of the Clean Air Act, as amended in 1990 (codified as 40 CFR Parts 6, 51 and 93), prohibits a federal agency from implementing, approving, or supporting any activity

that fails to conform to the purpose of a USEPA-approved State Implementation Plan (SIP) (or USEPA-promulgated Federal Implementation Plan [FIP]). The specific purpose of a SIP or FIP is to eliminate and reduce the severity and number of violations of the NAAQS. In addition, a SIP or FIP strives to achieve expeditious attainment of such standards. A proposed Federal action is considered to be in conformity to a SIP's purpose if that action will not:

1. use or contribute to any new violation of the NAAQS for any criteria air pollutant;
2. increase the frequency or severity of any existing violation of any standard in the area; or
3. delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

On 30 November 1993, the USEPA promulgated a final rule on determining conformity to SIPs or FIPs of general Federal projects that are not related to transportation programs, plans, or projects. The USEPA previously promulgated a separate rule making action on determining conformity of transportation-related projects that are not relevant to the proposed action. The property in Elmore County currently used and proposed for the training facility by the USAF is located neither within, nor near, any nonattainment area; therefore, a conformity determination is not required for the proposed action.

#### **4.4.2. Estimated Emissions**

Under the proposed action, routine emissions sources focused at the proposed site would include the operation of three (3) to four (4) buses, to and from the site, on days when students and staff are transported. It would also include, during cold weather, use of an estimated 15 to 20 gasoline fueled tent heaters at night. The emissions quantities from these sources are estimated to total less than one percent (1%) of emissions currently released by activities already in place in Elmore County.

Under the no-action alternative, the present usage would continue unchanged. Consequently, there would be no additional impacts to air quality associated with implementation of the no-action alternative.

#### **4.5. Hazardous Materials and Wastes**

Small quantities of hazardous materials that could pose a threat to the environment would be used on-site.

Under the proposed action, limited quantities of petroleum, oils, and lubricants (POL) would be used on-site for tent heating in the winter, and also to fuel grounds maintenance equipment such as a lawn mower. These products would be transported to the site in five (5) gallon containers and would be stored on site in a flammable locker. Other hazardous materials would be limited to cleaning and maintenance supplies.

Field training exercises may use confidence chambers to familiarize participants with the use of a gas mask. Very small amounts, at three (3) grams or less, of the chemical O-Chlorobenzylidene Malononitrile (CS) would be vaporized in the chamber. This material is highly irritating to the skin and eyes, but it is not toxic. Most of the material would volatilize into the air and rapidly disperse. The chemical agent, CS, would not be maintained on site. Only the amount needed for actual use would be transported to the site, on the day of use, and usage would be confined within a confidence chamber. The floor of the confidence chamber would be periodically swept out. The dirt swept from the chamber would be contaminated with small amounts of CS, which would be contained and disposed of along with other solid waste generated on the site.

#### **4.6. UTILITY SYSTEMS**

##### **4.6.1. Potable Water Supply**

Under the proposed action there would be increased demand for potable water on site during periods of active field exercise training. The increased water demand could be met by the current water supply source, Central Elmore Water Authority. There are currently no restrictions on the water that can be supplied to the site.

Under the no-action alternative, water service at the site would continue at current usage levels.

##### **4.6.2. Sanitary Sewer**

Treatment of the additional domestic wastewater could be handled by installing additional septic systems and drain fields. The Elmore County Health Department indicated that, based on known soil conditions, there are no constraints to locating more septic tanks and field lines on the property.

Implementation of the no-action alternative would not result in the generation of additional domestic wastewater on the site, nor would it require the use of additional domestic wastewater treatment facilities. There would be no change in impacts to domestic waste water generation or treatment.

##### **4.6.3. Stormwater Management**

The minor increase in impervious area as a result of construction of additional facilities would not adversely impact current drainage. Roadways constructed on the site would be stabilized with chipped stone, as necessary, to minimize the potential for erosion. Areas cleared for installation of structures, utility lines, and septic tank facilities would be revegetated upon completion of installation. No impacts to the stormwater management capabilities of the site or surface water quality would be expected as a result of implementation of the proposed action.

Implementation of the no-action alternative would not result in a change in surface water. There would be no additional impact on stormwater quality or stormwater management

on the site.

#### **4.6.4. Solid Waste Management**

Small amounts of solid waste would be generated on-site with implementation of the proposed action. Most solid waste would result from food preparation, grounds maintenance, and office activities of the instructors/staff. All solid waste generated on-site would be removed when the personnel abort the site and disposed of at Maxwell AFB or Gunter Annex, with other installation refuse, in accordance with government requirements concerning the transportation and disposal of solid waste. Another option is to contract with a private solid waste contractor to remove the solid waste after each class. No adverse impacts to solid waste management would result from the proposed action.

No additional solid wastes would be generated as a result of the no-action alternative.

### **4.7. BIOLOGICAL RESOURCES**

#### **4.7.1. Wildlife**

Implementation of training on site would result in an increase in human disturbance of wildlife species. The impact of human disturbance would be greatest during times when training would coincide with the reproductive/nesting periods of native wildlife species (March-June). These previously disturbed areas are in stages of old field succession and are least optimal in terms of nest site locations/cover for native wildlife species. Undisturbed habitat for wildlife would remain abundant on the site, as well as on adjacent rural properties. Hiking activities on the trails throughout the site would result in minimal short-term disturbance and are not expected to effect species' viability. Since no critical wildlife habitats are currently located on site, no effects would be expected from the proposed Vigilant Warrior Training. Vegetation would remain unaltered to the greatest extent possible, and habitat loss to native wildlife would be minimal.

The no-action alternative would not alter current levels of human disturbance or the impact on wildlife.

#### **4.7.2. Vegetation**

Use of the proposed site for Vigilant Warrior training as described by the USAF, should have minimal impact on the vegetation. The intent is to maintain the remote character of the land, disturbing as little of the existing vegetation as possible. A minimal amount of the total site would be disturbed and no appreciable impact would be expected.

Existing unpaved access roads into the site would be used, with some expansion, to accommodate buses and provide limited parking. Vegetation removal would be reduced by concentrating necessary structures in open or previously disturbed areas.

The expansion of the hiking trails is proposed throughout the site. A small amount of

vegetation would be lost in these limited areas. Trails would follow natural paths when possible, without loss of trees. Construction and replacement of footbridges across the creeks would minimize the potential for impacts from erosion and increased sedimentation in the streams.

Implementation of the no-action alternative would not result in any changes to the present already-disturbed vegetation.

#### **4.7.3. Threatened and Endangered Species**

Coordination with the USFWS is complete. A letter received from USFWS dated May 2, 2008, confirmed that there are no threatened or endangered species located on the site. The letter is contained in Appendix A.

Implementation of the no-action alternative would not affect threatened or endangered species on site.

#### **4.7.4. Sensitive Habitat**

Under the proposed action, the two (2) unnamed creeks on-site would be crossed by foot trails. The crossings would include temporary footbridges over the creeks to minimize erosion of the creek banks and would minimize impacts on water quality. Installation of the footbridges would not require a water quality certification from the Alabama Department of Environmental Management (ADEM) or a Section 404 permit from the USACE, as long as they are pile-supported and do not include the introduction of fill into the creeks. Neither ADEM nor USACE require permits for walkways. With construction of footbridges at creek crossings, training would not impact these areas because it does not involve water-related activities. The stream and slough sites are areas susceptible to disturbance, but no construction is planned in proximity to the streams or slough.

Implementation of the no-action alternative and continuation of current use of the site would not alter sensitive habitat on site.

### **4.8. CULTURAL, ARCHEOLOGICAL, AND HISTORICAL RESOURCES**

#### **4.8.1. Archeological and Historical Resources**

Under the proposed action, no off-site impacts to the environment or adjacent land uses would occur. There are no known adjacent historical sites. As discussed in Section 3.8.2.1, previous archeological surveys identified several sites of interest that were evaluated for archeological and historical significance. No archeological or historical resources warranting special protection were found on the site. The Alabama Historical Commission has been contacted pursuant to Section 106 of the National Historic Preservation Act and has determined that the proposed action should not affect any archeological resources listed on or eligible for the National Register of Historic Places. (See correspondence contained in Appendix A.)

Due to the nature of historic properties, it is possible that prior surveys may not have discovered all archeological resources. Therefore, Maxwell's Integrated Cultural Resources Management Plan (ICRMP) mandates that if archeological sites are discovered during the construction or implementation of an activity, all work in the area must cease and the Maxwell AFB Historic Preservation Officer must be notified immediately (MAFB, 2006).

Under the no-action alternative, the site would continue to be used by the USAF. The site is currently a training facility. No additional impacts to archeological or historical resources would be expected as a result of this alternative.

#### **4.9. WATER RESOURCES**

##### **4.9.1. Surface Water**

Under the proposed action, hiking trails would be developed in the vicinity of two (2) small creeks that flow across the site. Small footbridges would be replaced or constructed where the trails cross the creeks to minimize disturbance of the bottom or sides of the creeks. Trails running parallel to the creeks would be set back sufficiently to prevent erosion of the creek banks. As such, no impacts to surface water quality would result from implementation of the proposed action.

The no-action alternative would result in continuation of current use of the site. No evidence of either erosion or of other forms of surface water degradation were observed during the site visit. No appreciable impact to surface water would be expected with implementation of the no-action alternative.

##### **4.9.2. Groundwater**

Installation of the septic systems on the site would be done in accordance with state and local guidelines. The nature of the use of the site would result in limited flow to the system and adequate treatment of wastewater would be expected. No wastes would be introduced to the system that could not be properly treated. As stated in Section 4.10.3, the soils, as described in the Elmore County Soil Survey, do not have any identified constraints for placement and use of septic tanks and/or drainfields, in the proposed locations.

Under the no-action alternative, there would be no change in impacts to the groundwater.

#### **4.10. EARTH RESOURCES**

##### **4.10.1. Geology**

No activities associated with the on-site training would impact or utilize the geology of the area. Installation of the septic tanks would not disturb the geology of the site, nor would any other activities proposed for the site.

Implementation of the no-action alternative, continuation of current activities, would not

affect local geology.

#### **4.10.2. Topography**

Use of the proposed site would not alter the topography of the area. Construction on the site would be limited to placement of tents and installation of septic tanks and utility lines. Most tents would be installed in previously cleared areas that are relatively level. No major excavations or ground leveling would occur.

The topography of the site would not be affected by implementing the no-action alternative.

#### **4.10.3. Soils**

No significant digging and entrenching activities are planned during construction of proposed facilities or training. Some soil disturbance, however, would occur in limited areas, during installation of a septic tank and drain field, utility lines and road improvements, and also during the placement of cement footings for proposed building sites. However, implementation of BMPs during construction would reduce impacts to soils associated with grading and clearing activities. In addition, standard erosion control measures (e.g., silt fencing, sediment traps, application of water sprays, and revegetation of disturbed soils) would be implemented to reduce potential impacts of construction. The soils, as described in the Elmore County Soil Survey, do not have any identified building constraints including placement and use of septic tanks and drainfields in the proposed locations. As a result, no long-term impacts to soils would be expected.

The no-action alternative would not change impacts to area soils.

### **4.11. SOCIOECONOMICS**

#### **4.11.1. Approach to Analysis**

Significance of population and expenditure impacts are assessed in terms of their direct effects on the local economy and related effects on other socioeconomic resources within the region. Socioeconomic impacts would be considered significant if the proposed action resulted in a substantial shift in population trends, or notably affected regional employment, spending and earning patterns, or community resources.

#### **4.11.2. Impacts**

Personnel using the proposed facility for Vigilant Warrior training would stay on-site for the entire period and would not contribute to the economy of Elmore County. The students would travel directly to and from the site by bus and would not contribute to the economy of Elmore County. No personnel living in Elmore County would be employed at the site; therefore they would not impact the county's economy. Users of the site would be provided with lunches from Maxwell-Gunter AFB facilities, so their presence and activities in the county are not anticipated to contribute a multiplier effect to the

Elmore county economy. All trainees would be based at Maxwell-Gunter AFB and would reside on base. Thus, there would be no impact on socioeconomic resources of Elmore County of the Montgomery MSA.

Under the No-Action Alternative, training would continue at the proposed site. Therefore, no impacts to socioeconomic conditions would occur as a result of implementation of the No-Action Alternative.

## **4.12. ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN**

### **4.12.1. Approach to Analysis**

In order to comply with EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, ethnicity and poverty status in the vicinity of the proposed actions have been examined and compared to city, county, and state data to determine if any minority or low-income communities could potentially be disproportionately affected by implementation of the proposed action or alternatives. Similarly, to comply with EO 13045, *Protection of Children From Environmental Health Risks and Safety Risks*, the locations where numbers of children may be proportionally high on and in the vicinity of the proposed actions was determined to ensure that environmental risks and safety risks to children are addressed.

Three criteria must be met for impacts to minority and low income communities or children to be considered significant: 1) There must be one or more populations within the ROI; 2) There must be adverse (or significant) impacts from the proposed action; 3) The environmental justice populations within the ROI must bear a disproportionate burden of those adverse impacts. If any of these criteria are not met, then impacts with respect to environmental justice or protection of children would not be significant.

### **4.12.2. Impacts**

Under the proposed action, activities would be limited to the proposed site as shown in Figure 2.1. Minorities account for 24.1 percent of the population in Elmore County—a proportion lower than that of the state and significantly lower than Montgomery County (Table 3.6). Analyses of resource areas conclude that there are no minority populations (including minority and low-income populations) within or outside the proposed Vigilant Warrior facility that could be impacted. Therefore, implementation of the proposed action would not disproportionately impact minority or low-income populations.

Implementation of the proposed action would not result in environmental health risks or safety risks to children, as no housing or facilities for children exist adjacent to, or in the immediate vicinity of, the site of the proposed action. Therefore, no impacts to children from health risks or safety risks would occur as a result of implementing the proposed action.

Under the No-Action Alternative, continuation of training would occur at the present site. Baseline conditions would remain unchanged. Therefore, no impacts to environmental

justice conditions would occur, nor would children be disproportionately exposed to increased health or safety risks as a result of implementation of the No-Action Alternative.

#### **4.13. NOISE**

Noise impacts to the community are expected to be minimal. The proposed action would increase the noise on site during training exercises. These noise impacts would consist of temporary noise effects during construction of limited improvements to the site, vehicle noise from transportation of students and staff to and from the site, and noise from personnel conducting exercises on the site. A battlefield noise simulator is proposed to be used in the Red Gate training area. The maintenance of a 250-foot internal buffer of existing vegetation around the site and limited trips to and from the site would effectively limit off-site noise levels to existing ambient noise levels. In addition, the current land use survey of the area did not reveal any sensitive receptors within 800 feet of the site.

##### **4.13.1 Analysis Methodology**

The general Region of Influence (ROI) is the area surrounding the proposed site exposed to elevated noise levels caused by construction, munitions-related noise, and other human activities. For the Vigilant Warrior site, the ROI includes the 201-acre site and surrounding areas.

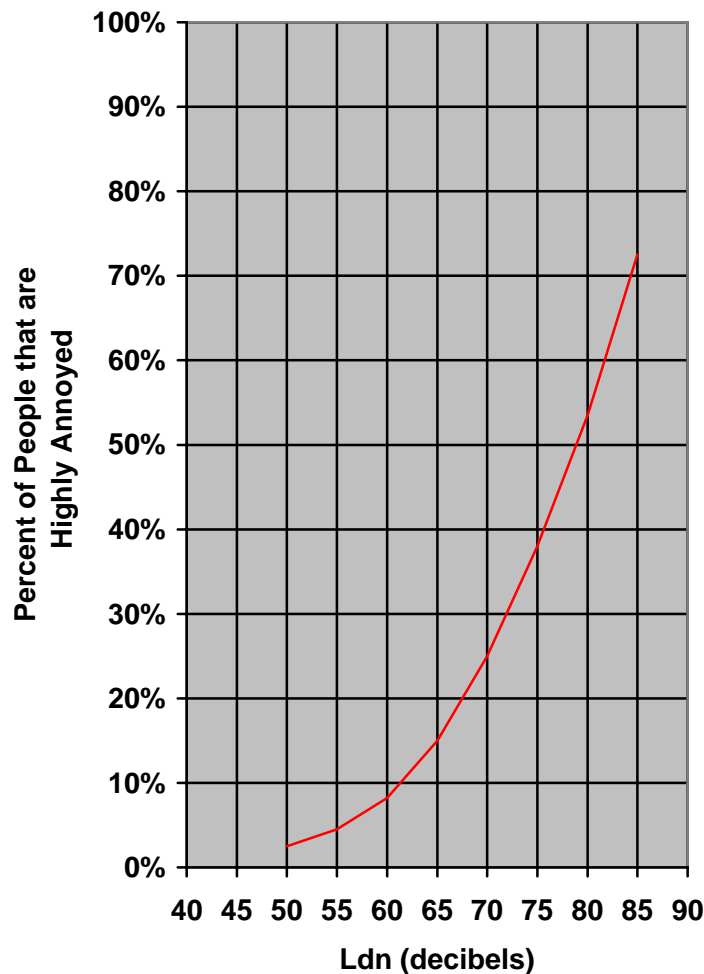
Ambient background noise is not considered in the noise calculations. There are two reasons for this. First, ambient background noise, even in remote areas, varies widely depending on location and other conditions. Therefore, assigning a value to background noise would be arbitrary. Second, and probably more importantly, it is reasonable to assume that ambient background noise in the Proposed Action's ROI would have little or no effect on the calculated Day-Night Average Sound Levels, or  $L_{dn}$ . In calculating noise levels, louder sounds dominate the calculations. Overall, aircraft and other transportation-related noise are, and will continue to be, the dominant noise sources for Maxwell AFB.

Although ambient noise is not measured or included in noise calculations, it is an important factor in determining impacts. For example, a new airfield near an industrial area would have little impact on the noise environment. In comparison, a new airfield built near a residential area would have significant impacts on the noise environment. Therefore, ambient noise is considered in impact determination where applicable.

Public annoyance is the most common impact associated with exposure to elevated noise levels. Most people are exposed to sound levels of 50-55 dBA ( $L_{dn}$ ) or higher on a daily basis. Studies conducted to determine noise impacts on various human activities have revealed that sound levels below 65 dBA ( $L_{dn}$ ) do not significantly bother approximately 87 percent of the population (FICON, 1992). The USEPA and Air Force rely on the Schultz Curve to predict annoyance levels, which is shown in Table 4.1. Impacts are therefore described in terms of increases in noise levels and the potential for annoyance

to receptors (i.e., local residents, personnel, etc.) based on potential increases above ambient noise levels. Under most conditions, a change of 5 dB is required for humans to perceive a change in the noise environment (USEPA, 1974). Based on the Schultz Curve, approximately 25 percent of people are highly annoyed by noise levels of 70 dBA ( $L_{dn}$ ). The percent of people highly annoyed increases to approximately 70 percent at a noise level of 85 dBA ( $L_{dn}$ ).

**Table 4.1**  
**Schultz Curve Illustrating the Relationship Between**  
**Noise Levels and Human Annoyance Response**



Source: Schultz, 1978 as cited in Deadrick 2005

#### 4.13.2. Impacts

The proposed project would use a combat noise simulator in the Red Gate training area. See Figure 4.1, Noise Buffer Zone Map. This equipment would be the primary contributor for noise to the immediate environment from this project. Impacts from this equipment could include but not be limited to; noticeable speech interference, startle

effect or annoyance.

According to U.S. Army Guidance on small arms range noise effects, two decibel contours are of special interest (US Army, 2007). Peak sound levels of 87 dB or below from small arms noise are at low risk of noise complaints and are considered compatible with most land uses. On the other hand, peak sound levels above 104 dB from arms use are expected to be disruptive to normal communication and activities and this puts the noise-generating source or activity at high risk of noise complaints.

The noise simulator source in this study can produce a maximum value of 130 dB at 3.3 feet. As noise propagates from its origin, it decreases in intensity. The general rule is that per every doubling of the distance, six decibels of intensity are lost. For example, a source that produces a 100 dB sound at 33 feet will be heard as 94 dB at 65.6 feet.

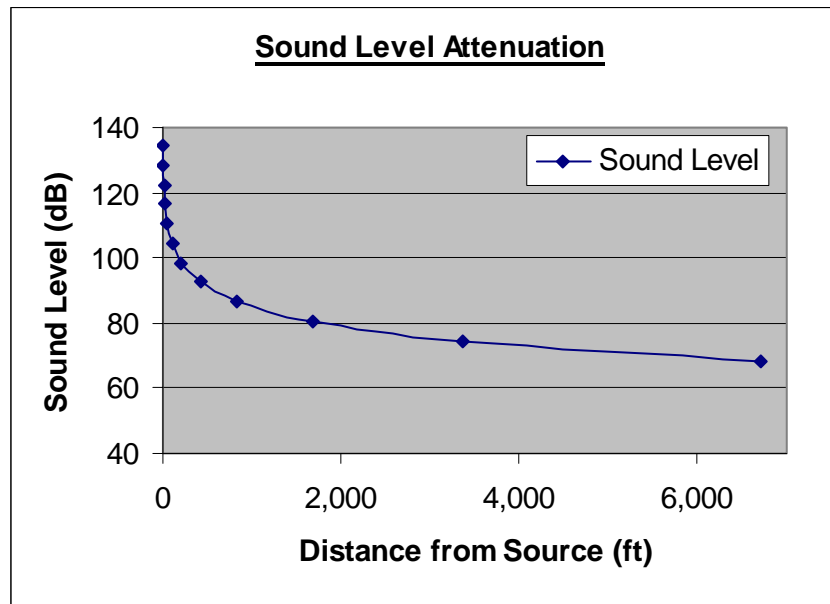
The distance and rate at which noise levels decrease is primarily based on topography separating the receptor and the noise source. Vegetation, unless very dense, is poor at abating noise and, therefore, increasing distance from the noise source is the most effective means of decreasing impacts due to noise.

Table 4.2 and the graph in Table 4.3 show how the noise from this device would be expected to decrease as the distance from its origin increases over flat ground. At its maximum sound level output of 130 dB, it is anticipated that a receptor within 70 feet would experience noise levels greater than 104 dB. Additionally a receptor within 490 feet would experience noise levels of 87 dB or greater, therefore the area that would potentially be impacted by the highest noise levels is quite small (See Figure 4.2, Area of Elevated Noise Impact Map). The project area in question is remote, and the nearest residential receptor is approximately 800 feet from the site boundary and 2,100 feet from the area where the simulator will be used. Therefore, there are no anticipated impacts from noise exposure in the proposed project area.

**Table 4.2**  
**Sound Level Attenuation Values**

Distance		Estimated Sound Level
(ft)	(m)	(dB)
3.3	1.0	130.0
6.6	2.0	124.0
13.1	4.0	118.0
26.2	8.0	112.0
52.5	16.0	106.0
105.0	32.0	100.0
209.9	64.0	94.0
419.8	128.0	88.0
839.7	256.0	82.0
1,679.4	512.0	76.0
3,358.7	1,024.0	70.0
6,717.4	2,048.0	64.0

**Table 4.3**  
**Sound Level Attenuation Graph**



The no-action alternative would not result in changes to the noise environment.

#### **4.14. CUMULATIVE IMPACTS**

Cumulative impacts result from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The Council of Environmental Quality states that the first steps in assessing cumulative impacts involve defining the scope of the other actions and their interrelationship with the proposed action and other actions. It must also evaluate the nature of interactions among these actions. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed, currently under construction, recently completed, or anticipated to be implemented in the near future is necessary.

##### **4.14.1. Past, Present and Reasonably Foreseeable Future Actions**

Several projects are planned at Maxwell-Gunter AFB. However, none of the proposed projects would have a direct or indirect impact on the use of the proposed training site. In addition, the Central Alabama Regional Planning Commission was contacted and did not identify any current or proposed projects planned for that area of Elmore County.

##### **4.14.2. Cumulative Impacts Analysis**

###### **4.14.2.1. Construction Phase**

Construction associated with the proposed action would be scheduled to occur in FY 2008-2012. This would not impact construction of other projects that may be identified at a later time.

###### **4.14.2.2. Long-Term Operation**

Operation of the training facilities that are proposed to be constructed would increase utility usage at the site. However, all utility systems have indicated that the proposed project would not impact the ability to supply the area. Because the proposed action results in no impact or minimal impact for the other addressed environmental issues, it would not have a significant effect on the cumulative impact of those issues.

#### **4.15. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS**

Implementation of the proposed action, the increased use of the proposed site for field training, would have minimal adverse effects on the environment. Effects on the biological resources of the site could be diminished by implementing best management practices during the planning phase of the project, such as constructing footbridges at stream crossings to prevent soil erosion and disruption of plant species. Removal of all refuse generated on site, by the end of each session, would minimize material exposure to wildlife.

**4.16. COMPATIBILITY OF THE PROPOSED ACTION AND ALTERNATIVES WITH THE OBJECTIVES OF FEDERAL, REGIONAL, STATE, AND LOCAL LAND-USE PLANS, POLICIES, AND CONTROLS**

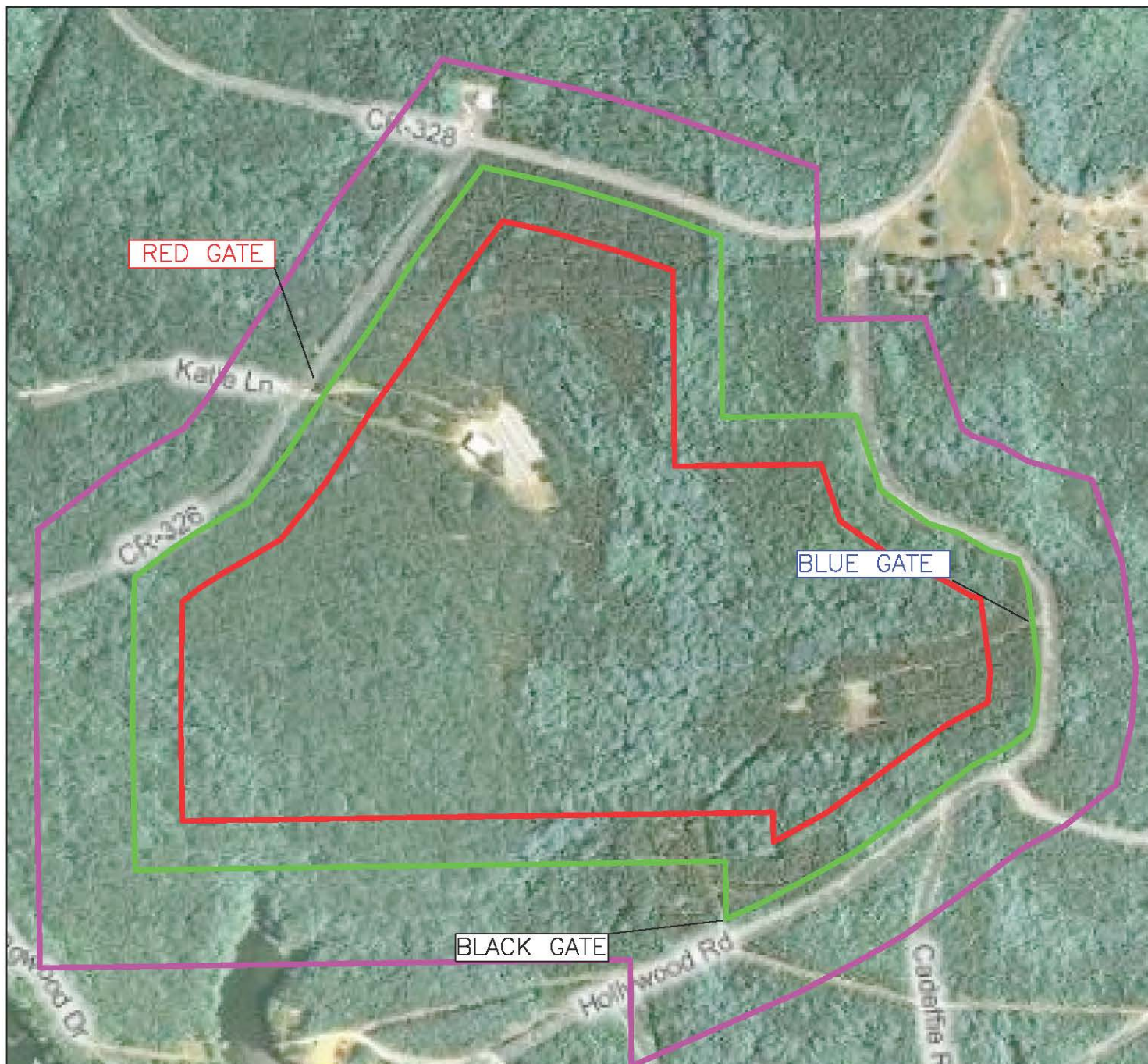
No federal or state land use plans have been adopted for the area in which the proposed site is located. The proposed activities are compatible with the Elmore County Comprehensive Plan. The proposed action, and the no-action alternative, would be in compliance with the Endangered Species Act, Section 404 of the Clean Water Act, and the National Historic Preservation Act.

**4.17. RELATIONSHIP BETWEEN SHORT-TERM USE OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY**

Under the proposed action, short-term uses of the environment and resources would include limited construction on the site for field training exercises. Concrete, wood, other building materials, and fuel would be consumed during construction and use of the facility. Upon expiration of the lease on the property in 2031, all improvements made to the site would be removed and every effort would be made to restore the property to its former condition. The long-term productivity of the site would not be affected by implementation of the proposed action or the no-action alternative.

**4.18. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and also to the effects associated with the use of these resources on future generations. Irreversible effects would result primarily from the consumption, or destruction, of a resource that could not be replaced within a reasonable period of time. Irretrievable resource commitments would involve the loss in the value of an affected resource that could not be restored. The amount of fuel used in the buses transporting personnel to the proposed site would increase over current fuel consumption, and minor amounts of heating fuel would be consumed during winter months. Other than these fuel consuming activities, no new irreversible or irretrievable commitments of resources would occur upon implementation of either the proposed action or the no-action alternative.



Source: Windows Live

#### Legend

- Property Boundary
- 250 Feet Internal Buffer
- 500 Feet Noise Receptor Zone

SCALE in Feet

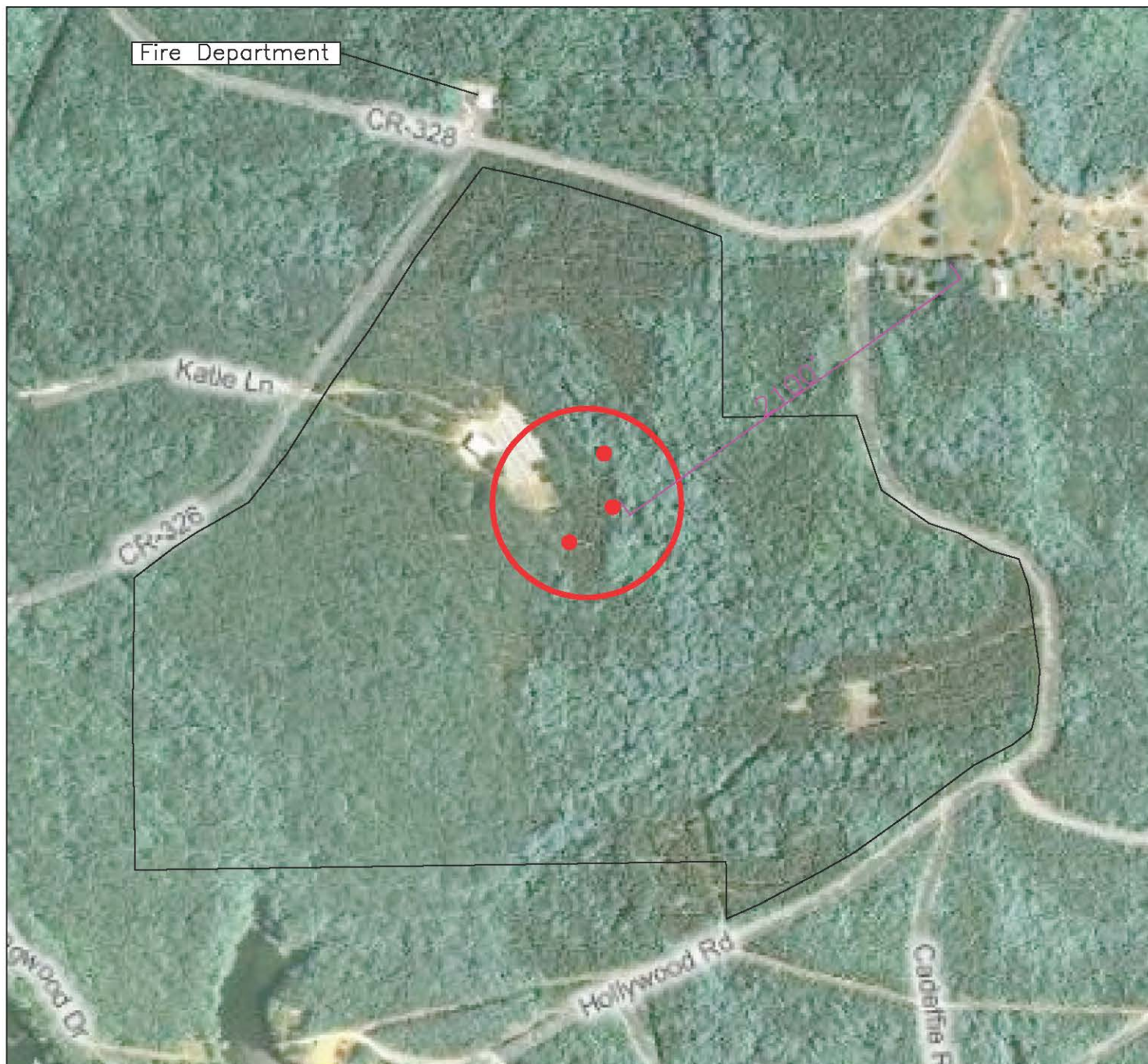


Figure 4.1

#### Noise Buffer Zone Map

Environmental Assessment  
Vigilant Warrior Training Site  
Elmore County, AL  
(Utilized by Maxwell AFB  
Montgomery, AL)

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Source: Windows Live

## Legend

- Potential Noise Areas
- Estimated Area Impacted by 87 dB and higher
- Vigilant Warrior Boundary
- Distance to Nearest Residence

SCALE in Feet

0 500 1000 1500 2000



Figure 4.2

Area of Elevated Noise Impact Map

Environmental Assessment  
Vigilant Warrior Training Site  
Elmore County, AL  
(Utilized by Maxwell AFB  
Montgomery, AL)

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## **5.0 LIST OF PREPARERS**

This report was prepared for, and under the direction of, Maxwell Air Force Base by Lanier Environmental Consultants, Inc. (LEC). Members of the professional staff are listed below:

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**APPENDIX A**  
**IICEP CORRESPONDENCE**

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# **LEC** Maxwell Support Division

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April 9, 2008

U.S. Fish and Wildlife Service  
Bill Pearson, Field Supervisor  
1208-B Main Street  
Daphne, AL 36526

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Pearson:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

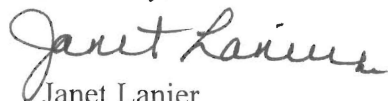
Under the Proposed Action, the construction would take place at the Vigilant Warrior training site at Lake Jordan in Elmore County, Alabama, in areas that have previously been disturbed. The proposed action includes the establishment of a training site where students will set up operations to resemble a forward operating base. The students will perform various activities that will be evaluated through expeditionary skills challenges and exercises.

The EA will evaluate the potential effects of conducting the proposed action with any alternatives that are deemed feasible. As required by NEPA, the Air Force will also consider taking no action.

In accordance with AFI 32-7060 we are requesting any comments or concerns you may have with the proposed project. To aid in analyzing cumulative impacts, we would also appreciate identification of major projects in the vicinity that may contribute to cumulative effects from these proposed actions. Please send your environmental comments to the address listed below within 30 days.

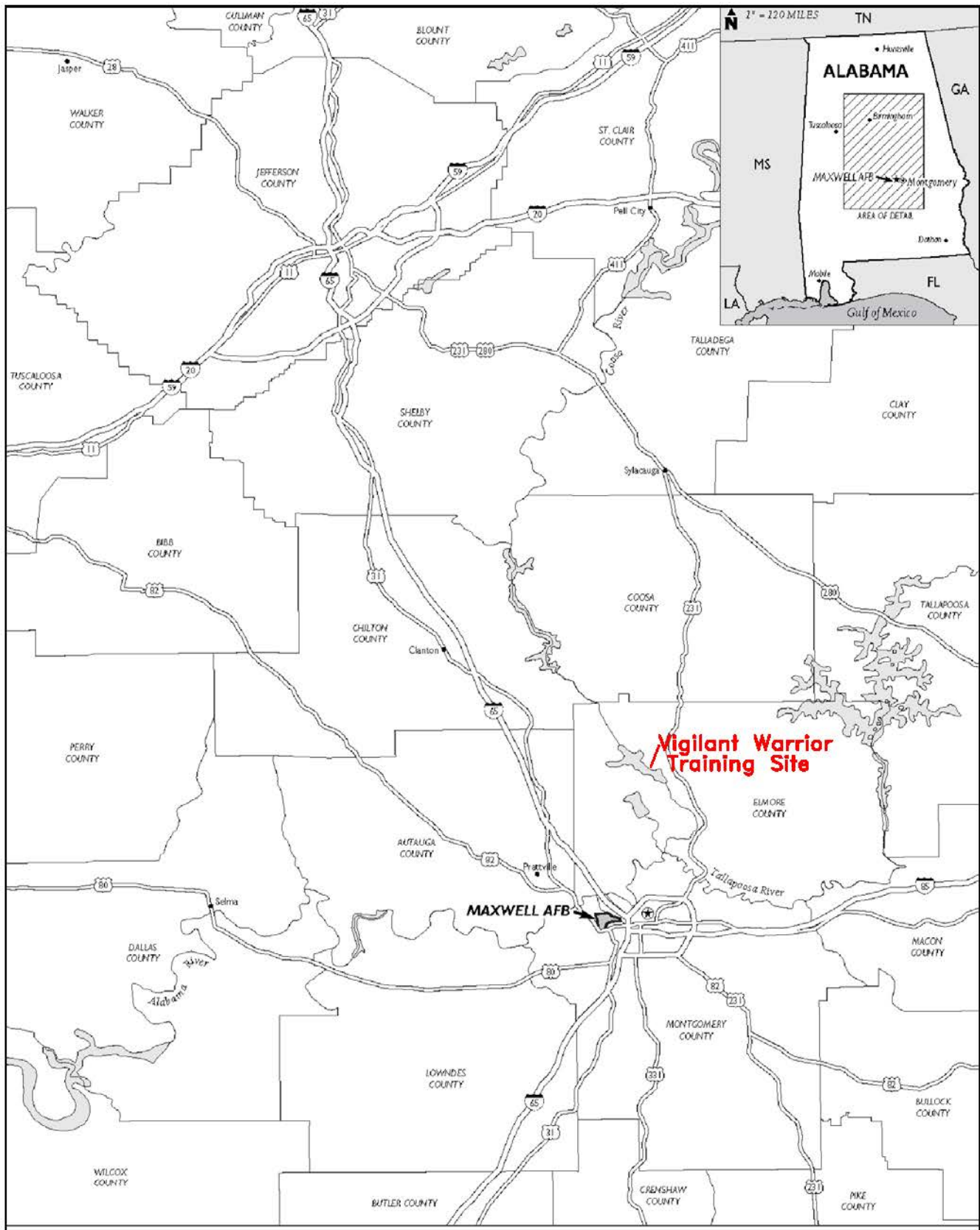
Thank you for your interest and assistance in this matter. If you have questions, please contact me at 334-953-5757.

Sincerely,

A handwritten signature in dark ink, appearing to read "Janet Lanier". The signature is fluid and cursive, with the first name "Janet" being more prominent than the last name "Lanier".

Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

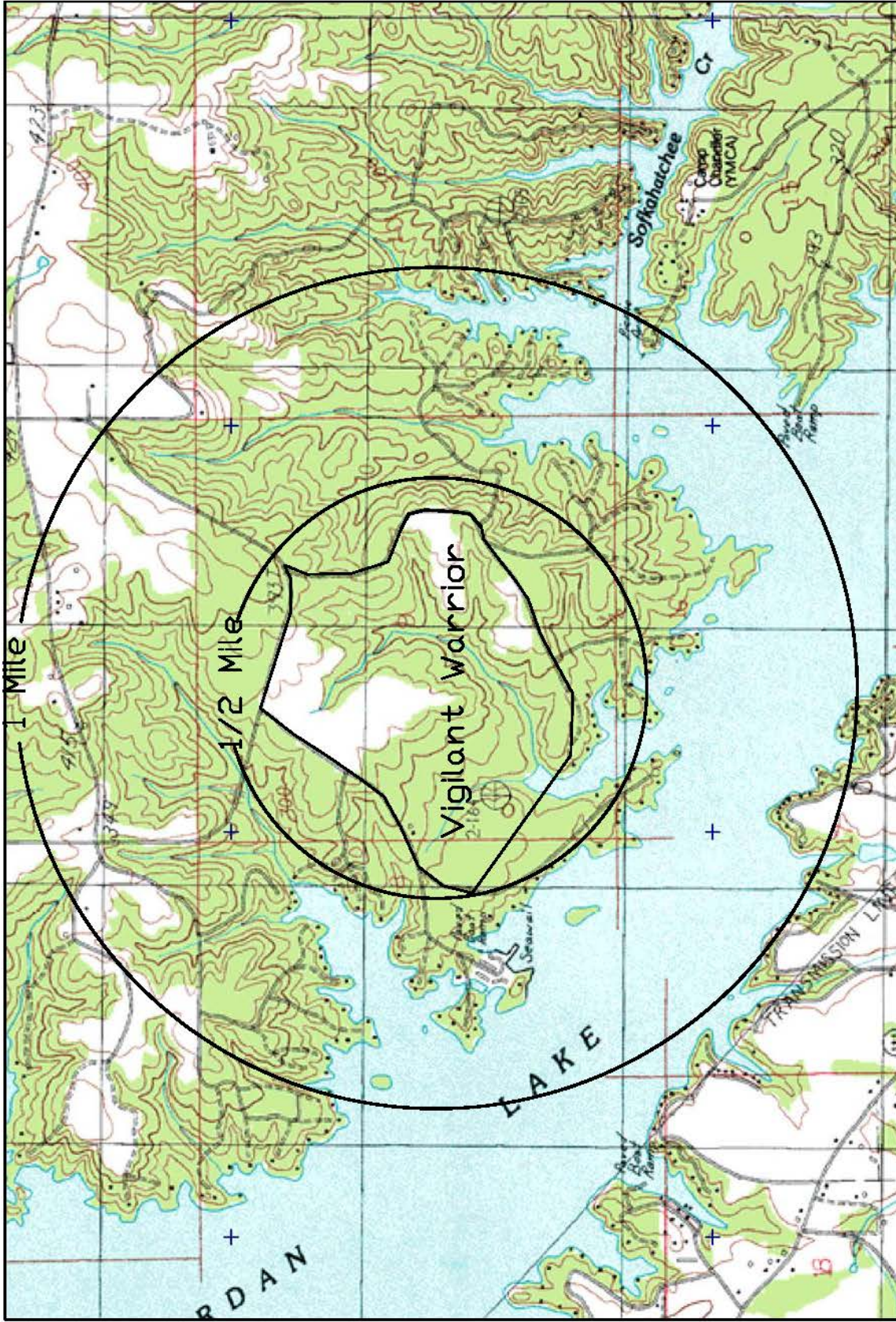


**Figure 1. MAFB Location Map**

**Environmental Baseline Survey  
Vigilant Warrior Lease Renewal  
Maxwell AFB  
Montgomery, AL**

<b>DRAWN BY</b>	JNK	<b>CHECKED BY</b>		
		<b>APPROVED BY</b>		

**IEC**



Source: [www.countygapofalabama.com](http://www.countygapofalabama.com)

DRAWN BY  
APPROVED BY

JNK

IEC

Scale



Figure 3. Vicinity Map

Environmental Baseline Survey  
Vigilant Warrior Lease Renewal  
Maxwell AFB  
Montgomery, AL

# **LEC** Maxwell Support Division

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April 9, 2008

Ms. Elizabeth Brown  
Alabama Historical Commission  
468 South Perry Street  
Montgomery, Alabama 36130-0900

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Ms. Brown:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

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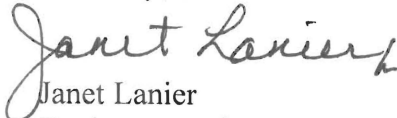
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In accordance with AFI 32-7060 we are requesting any comments or concerns you may have with the proposed project. To aid in analyzing cumulative impacts, we would also appreciate identification of major projects in the vicinity that may contribute to cumulative effects from these proposed actions. Please send your environmental comments to the address listed below within 30 days.

Thank you for your interest and assistance in this matter. If you have questions, please contact me at 334-953-5757.

Sincerely,

A handwritten signature in cursive script that reads "Janet Lanier".

Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# **LEC** Maxwell Support Division

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April 9, 2008

Mr. Jon Hornsby  
Environmental Coordinator  
Alabama Department of Conservation and Natural Resources  
64 N. Union Street  
Montgomery, Alabama 36130

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Hornsby:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

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400 Cannon Street, Building 1060  
Maxwell AFB, AL 36112  
Tel.: 334-953-5260 • 334-396-4004

Thank you for your interest and assistance in this matter. If you have questions, please contact me at 334-953-5757.

Sincerely,

A handwritten signature in dark ink, appearing to read "Janet Lanier". The signature is fluid and cursive, with the first name "Janet" being more prominent than the last name "Lanier".

Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# **LEC** Maxwell Support Division

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April 9, 2008

Mr. Bill Tucker, Executive Director  
Central Alabama Regional Planning and Development Commission  
125 Washington Avenue  
Third Floor  
Montgomery, AL 36104

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Tucker:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

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400 Cannon Street, Building 1060  
Maxwell AFB, AL 36112  
Tel.: 334-953-5260 • 334-396-4004

Thank you for your interest and assistance in this matter. If you have questions, please contact me at 334-953-5757.

Sincerely,



Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# ***LEC*** Maxwell Support Division

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April 9, 2008

U.S. Army Engineer District, Mobile  
P.O. Box 2288  
Mobile, AL 36628-0001

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Sir or Madam:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

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Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# **LEC** Maxwell Support Division

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April 9, 2008

Ms. Debbie Thomas  
Tribal Historic Preservation Officer  
Alabama-Coushatta Tribe of Texas  
571 State Park Road 56  
Livingston, Texas 77351

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Ms. Thomas:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

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Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# **LEC** Maxwell Support Division

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April 9, 2008

Ms. Allison Alexander  
Alabama-Quassarte Tribal Town of the Creek Nation of Oklahoma  
P.O. Box 537  
111 N. 6<sup>th</sup> Street  
Henryetta, Oklahoma 74437

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Ms. Alexander:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

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Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# **LEC** Maxwell Support Division

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April 9, 2008

Mr. Terry D. Cole  
Director of Cultural Resources  
Choctaw Nation of Oklahoma  
P.O. Drawer 1210  
Durant, Oklahoma 74702

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Cole:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

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Sincerely,

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Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# *LEC* Maxwell Support Division

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April 9, 2008

Mr. Charles D. Enyart  
Chief  
Eastern Shawnee Tribe of Oklahoma  
P.O. Box 350  
Seneca, Missouri 64865

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Enyart:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

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Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# **LEC** Maxwell Support Division

---

April 9, 2008

Mr. Lowell Wesley  
Mekko  
Kialegee Tribal Town of the Creek Nation of Oklahoma  
P.O. Box 332  
Wetumka, Oklahoma 74883

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Wesley:

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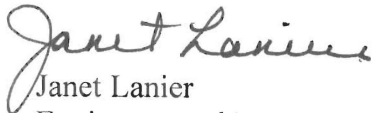
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Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

April 9, 2008

Mr. Kenneth H. Carleton  
Tribal Archaeologist  
Mississippi Band of Choctaw Indians  
P.O. Box 6257  
Choctaw, Mississippi 39350

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Carleton:

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Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# **LEC** Maxwell Support Division

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April 9, 2008

Mr. Billy Cypress  
Tribal Historic Preservation Officer  
Seminole Tribe of Florida  
6300 Stirling Road  
Hollywood, Florida 33024

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Cypress:

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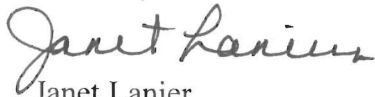
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Janet Lanier  
Environmental Manager  
MSD/CEV

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Enclosures

# **LEC** Maxwell Support Division

---

April 9, 2008

Mr. Charles Coleman  
Tribal Historic Preservation Officer  
Thlopthlocco Tribal Town  
P.O. Box 188  
Okemah, Oklahoma 74859

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Coleman:

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Janet Lanier  
Environmental Manager  
MSD/CEV

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Enclosures

April 9, 2008

Ms. Stephanie Rolin  
Tribal Administrator  
Poarch Band of Creek Indians  
5811 Jack Spring Road  
Atmore, AL 36502

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Ms. Rolin:

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Sincerely,

  
Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# **LEC** Maxwell Support Division

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April 9, 2008

Mr. A.D. Ellis  
National Chief  
Muscogee (Creek) Nation  
P.O. Box 580  
Okmulgee, OK 74447

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Ellis:

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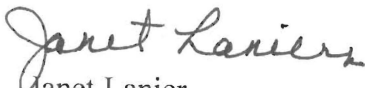
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Sincerely,



Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# ***LEC*** Maxwell Support Division

---

April 29, 2008

Mr. Joe Faulk, Chairman  
Elmore County Commission  
100 East Commerce Street  
Wetumpka, AL 36092

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Faulk:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

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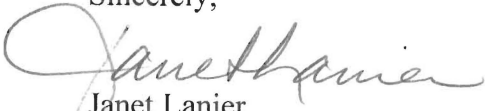
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400 Cannon Street, Building 1060  
Maxwell AFB, AL 36112  
Tel.: 334-953-5260 • 334-396-4004

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Sincerely,

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Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures

# **LEC** Maxwell Support Division

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April 29, 2008

Mr. Richie Beyer  
Elmore County Engineer  
155 County Shop Road  
Wetumpka, AL 36092

RE: Proposed Construction for Maxwell Air Force Base  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Mr. Beyer:

The United States Air Force is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). In response to recommendations by the Air Force Chief of Staff, several training programs are being increased and revised in order to better train our military personnel for deployment and combat. New or upgraded facilities are needed in order to implement these training requirements and accommodate military trainees.

Under the Proposed Action, the construction would take place at the Vigilant Warrior training site at Lake Jordan in Elmore County, Alabama, in areas that have previously been disturbed. The proposed action includes the establishment of a training site where students will set up operations to resemble a forward operating base. The students will perform various activities that will be evaluated through expeditionary skills challenges and exercises.

The EA will evaluate the potential effects of conducting the proposed action with any alternatives that are deemed feasible. As required by NEPA, the Air Force will also consider taking no action.

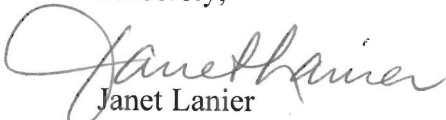
In accordance with AFI 32-7060 we are requesting any comments or concerns you may have with the proposed project. To aid in analyzing cumulative impacts, we would also appreciate identification of major projects in the vicinity that may contribute to cumulative effects from these proposed actions. Please send your environmental comments to the address listed below within 30 days.

---

400 Cannon Street, Building 1060  
Maxwell AFB, AL 36112  
Tel.: 334-953-5260 • 334-396-4004

Thank you for your interest and assistance in this matter. If you have questions, please contact me at 334-953-5757.

Sincerely,

  
Janet Lanier  
Environmental Manager  
MSD/CEV

JLL: bao  
Enclosures



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

1208-B Main Street  
Daphne, Alabama 36526

MAY 02 2008

IN REPLY REFER TO:  
2008-TA-0429

Ms. Janet Lanier, Environmental Manager  
LEC, Maxwell Support Division  
400 Cannon Street, Building 1060  
Maxwell AFB, AL 36112

Dear Ms. Lanier:

Thank you for your letter dated April 9, 2008, requesting comments on the construction of new (and upgrading of some existing) training facilities at Vigilant Warrior Training Facility on Lake Jordan, Elmore County, Alabama. We have reviewed the information and are providing the following comments in accordance with the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et.).

We believe no adverse affect to listed species or critical habitat will occur as a result of constructing new or upgrading of existing training facilities at Vigilant Warrior Training Facility. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect endangered or threatened species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the action.

We may have additional comments after review of the Environmental Assessment containing the full description of the proposed action. If you need additional information with regards to this correspondence, please contact Mr. Bruce Porter of my staff at (251) 441-5864 or email [bruce\\_porter@fws.gov](mailto:bruce_porter@fws.gov).

Sincerely,

for William J. Pearson  
Field Supervisor  
Alabama Ecological Services Field Office

[www.fws.gov](http://www.fws.gov)

PHONE: 251-441-5181



FAX: 251-441-6222



STATE OF ALABAMA  
ALABAMA HISTORICAL COMMISSION  
468 SOUTH PERRY STREET  
MONTGOMERY, ALABAMA 36130-0900

April 25, 2008

TEL: 334-242-3184  
FAX: 334-240-3477

Janet Lanier  
LEC Maxwell Support Division  
400 Cannon Street, Building 1060  
Maxwell AFB, Alabama 36112

Re: AHC 08-0641  
Vigilant Warrior Training Facility  
Elmore County, Alabama

Dear Ms. Lanier:

Upon review of the information forwarded by your office, we have determined that the proposed activities should not affect any archaeological resources listed on or eligible for the National Register of Historic Places (NRHP). However, please advise us if there are any structures 50 years old or older located on or adjacent to the proposed project site.

We appreciate your efforts on this project. Should you have any questions, the point of contact for this matter is Greg Rhinehart at (334) 230-2662. Please have the AHC tracking number referenced above available and include it with any correspondence.

Truly yours,

Elizabeth Ann Brown  
Deputy State Historic Preservation Officer

EAB/GCR/gcr

**From:** Lanier, Janet L CTR USAF AETC MSD/CEV  
**Sent:** Tuesday, May 27, 2008 1:47 PM  
**To:** Watson, Sherrie CTR USAF AETC MSD/CEV  
**Cc:** Lanier, Carrie L CTR USAF AETC MSD/CEV  
**Subject:** FW: Response to AHC 08-0641 Vigilant Warrior Training Facility, Elmore County for files

---

**From:** Brown, Elizabeth [mailto:EBrown@preserveala.org]  
**Sent:** Fri 5/23/2008 3:52 PM  
**To:** Lanier, Janet L CTR USAF AETC MSD/CEV  
**Subject:** RE: Response to AHC 08-0641 Vigilant Warrior Training Facility, Elmore County

Sure, and we will file this email. E.

---

**From:** Lanier, Janet L CTR USAF AETC MSD/CEV [mailto:janet.lanier.ctr@maxwell.af.mil]  
**Sent:** Friday, May 23, 2008 3:46 PM  
**To:** Brown, Elizabeth  
**Cc:** Watson, Sherrie CTR USAF AETC MSD/CEV  
**Subject:** Response to AHC 08-0641 Vigilant Warrior Training Facility, Elmore County

Elizabeth:

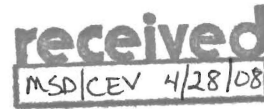
Sorry, I just re read your letter dated April 25, 2008 that requested that we verify that there were no structures on the site or adjacent to the site that are 50 years old or older. Please consider this e-mail confirmation that there are no structures located on the site (first structure built in 1996) and there are no structures adjacent to the site. The nearest facility to the site is the Volunteer Fire Department metal building that is less than 50 years old. Thank you for your prompt reply to this e-mail clearing the action.

Janet Lanier  
MSD/CEX/CEV Manager  
DSN 493-5260  
334-953-5260

# CARPDC

CENTRAL ALABAMA REGIONAL PLANNING  
AND DEVELOPMENT COMMISSION

AUTAUGA, ELMORE & MONTGOMERY COUNTIES



Jiles Williams, Jr.  
Chairman

Bill J. Tucker  
Executive Director

April 21, 2008

Mrs. Janet Lanier  
Environmental Manager  
400 Cannon Street, Building 1060  
Maxwell AFB, AL 36112

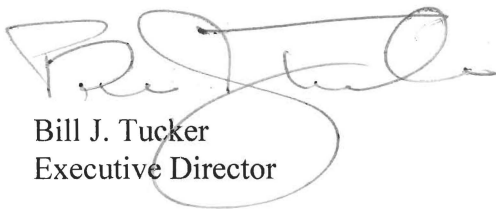
RE: AFI 32-7060 Review  
Vigilant Warrior Training Facility Improvements  
Elmore County, Alabama

Dear Mrs. Lanier:

In reference to your letter of April 9, 2008, CARPDC has reviewed the proposed project for the Vigilant Warrior Training Facility at Lake Jordan in Elmore County. This office has no negative comments or concerns regarding the proposed construction project. In fact, we encouraged continued investment by the Air Force for such activities in our Region. In short, this office fully concurs with moving forward with this project at your earliest opportunity.

Should you have any questions regarding this review, please call me anytime.

Sincerely,



Bill J. Tucker  
Executive Director



## Choctaw Nation of Oklahoma

P.O. Box 1210 • Durant, OK 74702-1210 • (580) 924-8280



Gregory E. Pyle  
Chief

Gary Batton  
Assistant Chief

April 23, 2008

Janet Lanier  
LEC Maxwell Support Division  
400 Cannon Street, Building 1060  
Maxwell AFB, AL 36112

Dear Janet Lanier:

We have reviewed the following proposed project (s) as to its effect regarding religious and/or cultural significance to historic properties that may be affected by an undertaking of the projects area of potential effect.

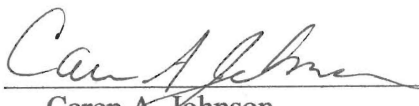
Project Description: Construction for Maxwell Air Force Base, Vigilant Warrior Training Facility

Site Location: Elmore County, Alabama

Comments: To the understanding of the Choctaw Nation of Oklahoma, the Area of Potential Affect has had an Archeological Survey in the past yielding NO historical concerns. Therefore, to the best of our knowledge it will have no adverse effect on any historic properties in the project's area of potential effect. However, should construction expose buried archaeological or building materials such as chipped stone, tools, pottery, bone, historic crockery, glass or metal items, this office should be contracted immediately @ 1-800-522-6170 ext. 2137.

Sincerely,

Terry D. Cole  
Tribal Historic Preservation Officer  
Choctaw Nation of Oklahoma

By:   
Caren A. Johnson  
Administrative Assistant

CAJ: vr



## **APPENDIX B**

### **FEDERALLY LISTED SPECIES IN ELMORE COUNTY, AL**

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## U.S. Fish & Wildlife Service

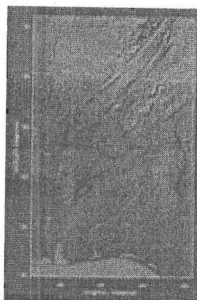
### Alabama Ecological Services Field Office

*Daphne, Alabama*

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#### ALABAMA'S FEDERALLY LISTED SPECIES



#### BY COUNTY

Updated - April 2, 2007

We are continually updating this list and, therefore, it may be incomplete and is provided strictly for informational purposes. This list does not constitute any form of Section 7 consultation. We recommend that you contact our office (Daphne, AL Field Office - USFWS) for more current, site specific information prior to project activities. To be certain of occurrence, surveys should be conducted by qualified biologists to determine if a Federally protected species occurs within a project area. Locations of designated critical habitat has also been included for your information.

**Alabama Counties:** [Autauga](#) / [Baldwin](#) / [Barbour](#) / [Bibb](#) / [Blount](#) / [Bullock](#) / [Butler](#) / [Calhoun](#) / [Chambers](#) / [Cherokee](#) / [Chilton](#) / [Choctaw](#) / [Clarke](#) / [Clay](#) / [Cleburne](#) / [Coffee](#) / [Colbert](#) / [Conecuh](#) / [Coosa](#) / [Covington](#) / [Crenshaw](#) / [Cullman](#) / [Dale](#) / [Dallas](#) / [DeKalb](#) / [Elmore](#) / [Escambia](#) / [Etowah](#) / [Fayette](#) / [Franklin](#) / [Geneva](#) / [Greene](#) / [Hale](#) / [Henry](#) / [Houston](#) / [Jackson](#) / [Jefferson](#) / [Lamar](#) / [Lauderdale](#) / [Lawrence](#) / [Lee](#) / [Limestone](#) / [Lowndes](#) / [Macon](#) / [Madison](#) / [Marengo](#) / [Marion](#) / [Marshall](#) / [Mobile](#) / [Monroe](#) / [Montgomery](#) / [Morgan](#) / [Perry](#) / [Pickens](#) / [Pike](#) / [Randolph](#) / [Russell](#) / [Shelby](#) / [St. Clair](#) / [Sumter](#) / [Talladega](#) / [Tallapoosa](#) / [Tuscaloosa](#) / [Walker](#) / [Washington](#) / [Wilcox](#) / [Winston](#)

#### Key to codes on list:

E - Endangered  
T - Threatened  
C - Candidate Species  
(P) - Possible Occurrence  
BGEPA - Bald & Golden Eagle Protection Act

## DeKalb

- E - Gray bat *Myotis grisescens*
- E - Indiana bat *Myotis sodalis* (P)
- T - Blue shiner *Cyprinella caerulea*
- T - Fine-lined pocketbook mussel *Hamiota* (= *Lampsilis*) *altilis*
- T - Kral's water-plantain *Sagittaria secundifolia*
- E - Green pitcher plant *Sarracenia oreophila*
- E - Harperella *Ptilimnium nodosum*

## Elmore

- BGEPA - Bald eagle *Haliaeetus leucocephalus*
- E - Tulotoma snail *Tulotoma magnifica*
- E - Fine-lined pocketbook mussel *Lampsilis altilis*
- C - Rough hornsnail *Pleurocera foremani*
- C - Interrupted rocksnail *Leptoxis foremani*
- E - Alabama canebrake pitcher plant *Sarracenia rubra* ssp. *alabamensis*
- C - Georgia rockcress *Arabis georgiana*

### Critical Habitat:

- Species—southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, Coosa moccasinshell, southern pigtoe, fine-lined pocketbook
- Location—Coosa River

## Escambia

- E - Wood stork *Mycteria americana*
- E - Red-cockaded woodpecker *Picoides borealis*
- T - Gulf sturgeon *Acipenser oxyrinchus desotoi*

### Critical Habitat:

- Species—Gulf sturgeon
- Location—Conecuh River, Sepulga River

## Etowah

- T - Flattened musk turtle *Sternotherus depressus*
- T - Mohr's Barbara's buttons *Marshallia mohrii*
- E - Green pitcher plant *Sarracenia oreophila*
- E - Alabama leather flower *Clematis socialis*
- E - Southern clubshell mussel *Pleurobema decisum*
- T - Fine-lined pocketbook mussel *Hamiota* (= *Lampsilis*) *altilis*

**APPENDIX C**

**PUBLIC INVOLVEMENT**

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## **Appendix C**

### **Public Involvement**

As required by NEPA, the Air Force provides opportunities for public involvement in the NEPA process. A public notice, announcing the availability of the Draft EA and proposed FONSI for expanding training facilities at the Vigilant Warrior training site in Elmore County, Alabama, was published in The Wetumpka Herald on June 18, 2008. The notice invited public review and comment on the Draft EA/FONSI and indicated that copies of the document were available at the Wetumpka Public Library and Air University Library. A privacy advisory was included with the public notice and indicated that comments received on the Draft EA/FONSI and the commentor's name could be published in the Final EA/FONSI, but personal home addresses and phone numbers would not be published. Please see the following page for a copy of the Public Notice.

The public comment period ended on July 18, 2008. No comments were received during the public comment period.

**DRAFT ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF NO  
SIGNIFICANT IMPACT TO UPGRADE TRAINING FACILITIES AT  
VIGILANT WARRIOR TRAINING SITE IN ELMORE COUNTY, ALABAMA,  
UTILIZED BY MAXWELL AFB, MONTGOMERY, ALABAMA**

In accordance with the National Environmental Policy Act, Maxwell AFB is making available for the public a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI).

The U.S. Air Force proposes to expand expeditionary training and upgrade training facilities at the Vigilant Warrior training site in Elmore County, Alabama. Proposed new facilities include: tents and tent pads; bathhouses and accompanying septic systems, covered training pavilions, and a storage facility/inclement weather shelter. Various obstacle courses and field training areas would be established and improved for field training exercises.

The environmental aspects of the proposed plan and alternatives were considered in the draft EA. The Air Force has assessed the potential environmental impacts of the proposed action as described in the draft EA and has determined that it will not significantly impact the quality of the environment. The draft FONSI documents this assessment. A copy of the draft FONSI and draft EA are available for public review at the Wetumpka Public Library, 212 S. Main Street, and the Air University Library, Maxwell AFB.

Any comments regarding the draft EA or draft FONSI should be submitted in writing within 30 days of the publication of this notice to: AU/PA, 55 LeMay Plaza South, Maxwell AFB, AL 36112-6335. For further information, contact Brenda King at (334) 953-1517.

**PRIVACY ADVISORY**

Public comments on this draft Environmental Assessment (EA) are requested pursuant to the National Environmental Policy Act, 42 United States Code 4321, *et seq.* As required by law, all written comments received during the comment period will be made available to the public and considered during Final EA preparation. Providing private address information with your comment is voluntary and such personal information will be kept confidential unless release is required by law. However, address information will be used to compile the project mailing list and failure to provide it will result in your name not being included on the mailing list.

## **DRAFT ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF NO SIGNIFICANT IMPACT TO UPGRADE TRAINING FACILITIES AT VIGILANT WARRIOR TRAINING SITE IN ELMORE COUNTY, ALABAMA, UTILIZED BY MAXWELL AFB, MONTGOMERY, ALABAMA**

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